

FACT SHEET

HALOGENATED SOLVENT CLEANING MACHINE NESHP

BACKGROUND

- Under Section 112 of the Clean Air Act, national emission standards for hazardous air pollutants (NESHP) for Halogenated Solvent Cleaning Machines are required. Halogenated solvent cleaners are listed on the Source Category List and standards must be promulgated by November, 1994, as provided in the Source Category Schedule.
- Pollutants controlled: Limits emissions from the following halogenated HAP solvents: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, and chloroform from affected sources.
- Projected growth: There are approximately 24,500 batch vapor and in-line solvent cleaning machines using halogenated solvents. The number of halogenated solvent cleaning machines in the industry is not expected to grow. Two of the solvents, 1,1,1-trichloroethane and carbon tetrachloride will be banned from production and importation by the Montreal Protocol. Additionally, the industry has gradually been shifting to nonhalogenated solvent cleaning operations, including aqueous and semi-aqueous operations. In calculating the potential impacts from this source category, projections were based on a constant population of cleaning machines steadily retiring and being replaced by new cleaning machines. Based on this assumption, a total of 27% of the current cleaning machines population will have been removed and replaced with new cleaning machines, subject to MACT for new sources, by 1997.

RECOMMENDED STANDARDS

- Basis: Combination of equipment and operational practices. The standards for all batch vapor and in-line units, are based on MACT as there was no justification for using GACT for area sources. Standards for batch cold cleaning machines are based on GACT.
- Applicability: The standards for halogenated HAP solvent cleaning machines apply to each individual solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvents, in a total concentration that is greater than 5 percent by weight.

- Compliance Schedule: Existing solvent cleaning machines must achieve compliance with this subpart no later than 36 months after the promulgation date of this subpart. New solvent cleaning machines must achieve compliance with this subpart immediately upon startup or by the promulgation date of this subpart, whichever is later.

Each owner or operator electing to comply with the equipment standard, can either install one of the control combinations listed in Table 1 or demonstrate that the cleaning machine can meet the idling mode emission limits listed in Table 1. No idling standard is proposed for batch cold cleaning machines.

- Alternative Standards: As an alternative to complying with the equipment standards option, each owner or operator of batch vapor or in-line cleaning machines may elect to comply by demonstrating that each solvent cleaning machine emits less than the overall solvent emissions limit specified in the standards. No alternative emission standards are proposed for batch cold cleaning machines.

The overall solvent emissions limits are as follows:

- For batch vapor solvent cleaning machines, 150 kg/square meter-month.
- For existing in-line solvent cleaning machines, 153 kg/square meter-month.
- For new in-line solvent cleaning machines, 99 kg/square meter-month.
- Compliance Determinations:
 - Continuous compliance: Continuous compliance is determined through periodic monitoring of process parameters. For batch vapor and in-line cleaning machines complying with the equipment standard, monitoring of individual controls is required. In the case where the owner or operator of a batch vapor or in-line cleaning machine elects to comply with the alternative standards, compliance is determined by solvent consumption records and materials balance calculations of overall solvent emissions. Monitoring is not required for owners or operators of batch cold cleaning machines.
 - Performance tests: Required only if the idling emission limit standards are being used to comply with the rule and no vendor-supplied test is available for the specific model cleaning machine.

The initial performance test demonstrates compliance with the idling standard and establishes monitoring parameters to demonstrate continued compliance.

- Work practice standards: If required by the Administrator during an inspection, owners or operators of batch vapor and in-line cleaning machines must demonstrate knowledge of work practices and proper solvent cleaning machine operation by taking and passing an operator test. An operator test is not required for owners or operators of batch cold cleaning machines.
- Monitoring:
 - For owners or operators of batch vapor or in-line cleaning machines electing to comply with the equipment-based standards, periodic monitoring of each control device is required. Weekly monitoring is required for the freeboard refrigeration device and super heated vapor system. When reducing room draft by controlling room parameters, the parameters must be monitored weekly, while the actual measurement of the windspeed must be done quarterly. Monthly monitoring is required for controls less likely to vary in effective operation; such as a cover, hoist speed, or reducing room draft by using an enclosure. The frequency of hoist monitoring reduces to quarterly after a year of operation without an exceedance, or if an owner or operator can demonstrate that their hoist speed cannot exceed the specified limit. Monitoring is not required for owners or operators of batch cold cleaning machines.
 - For owners or operators of batch vapor or in-line cleaning machines electing to comply with the alternative standards, dates and amounts of solvent that is added to the solvent tank must be monitored, as well as the solvent composition of wastes removed from the cleaning machines. (An equation is provided for facilities that do not routinely monitor solvent content of wastes.) This information is used to determine the overall solvent emissions.
- Reporting and Recordkeeping:
 - One-time--All owners and operators of solvent cleaning machines are required to submit an initial notification report. The initial notification report must include information on each solvent cleaning machine and control equipment, and the yearly estimated consumption of each halogenated HAP solvent used. For existing solvent cleaning machines, the initial notification report is due 270 days from the date of promulgation

of this subpart. New sources for which construction or reconstruction had commenced and initial startup had not occurred before the date of promulgation of this standard must submit the initial report as soon as practicable before startup but no later than 60 days after the date of promulgation of the standard. New sources for which the construction or reconstruction commenced after the date of promulgation of this standard must submit the initial notification as soon as practicable before the construction or reconstruction is planned to commence (but no sooner than the date of promulgation of the standard.) All owners or operators of solvent cleaning machines are also required to submit a compliance report. The compliance report must show that the provisions of the regulation are being met, including identifying which standards are being used to comply with this regulation.

For existing solvent cleaning machines, the compliance report must be submitted 150 days after the compliance date for existing solvent cleaning machines. For new solvent cleaning machines, the compliance report must be submitted 150 days after startup or 150 days from the date of promulgation, whichever is later. If the owner or operator of a batch vapor or in-line cleaning machine elects to comply with the idling emission limit standards, a test report is required as part of the initial compliance report.

-- Annually--Owners or operators of batch vapor or in-line cleaning machines are required to submit a yearly compliance report. Those owners or operators that choose to comply with the equipment standards are required to maintain records of control device monitoring on-site. These records are to include a list of control equipment used, the parameters that were monitored, and the results of the control equipment monitoring. Those owners or operators that choose to comply with the alternative standards are required to submit annual reports that include the average monthly solvent consumption and the overall solvent emissions estimates calculated each month. Batch cold cleaning machines are not required to submit an annual compliance report. Batch cold cleaning machines located at nonmajor sources are exempt from 40 CFR Part 70 permitting requirements.

-- Periodic--Owners or operators of batch vapor or in-line solvent cleaning machines are required to submit a biannual exceedance report. If an exceedance occurs this report must be submitted quarterly. This includes exceeding equipment parameter requirements and the overall solvent emissions limit. An exceedance of some equipment parameter requirements occurs if, within

15 days from an exceedance of a monitored parameter, the monitored equipment parameter requirement is not met. Exceedance of other equipment parameters occurs at the moment the parameter is exceeded. An exceedance in the overall solvent emissions limit occurs at the moment the limit is exceeded.

- Permitting Requirements: All cleaning machines located at a major source need to apply for a permit within 12 months after the approval of a Part 70 operating permit program for that state. Cleaning machines (except cold batch) located at area sources need to apply for a permit 42 months (3 1/2 years) after the approval of a Part 70 operating permit program and obtain a permit within five years of the approval of a Part 70 operating permit program. All cold batch cleaning machines located at nonmajor sources are exempt from 40 CFR Part 70 permitting requirements.

IMPACTS

- HAP emissions: Reduction of 77,400 Mg/yr (85,300 tons/yr) by 1997.
- Energy: Increase from 12.9 million kWh/yr to 66.9 million kWh/yr nationally.
- Annualized cost: National net savings of \$19 million.
- Non-air environmental impacts are not anticipated to be significant.

TABLE 1. CONTROL COMBINATIONS OR IDLING LIMIT ALTERNATIVES
FOR SOLVENT CLEANING MACHINES^{a,b}

Cleaning machine type/size (m ² solvent/air interface area)	Control combination options	or	Idling limits (kg/hr per m ² solvent/air interface area)
Batch vapor cleaning machines (≤1.21 m ²)	Working-mode cover, freeboard ratio of 1.0, super heated vapor or Freeboard refrigeration device, super heated vapor or Working-mode cover, freeboard refrigeration device or Reduced room draft, freeboard ratio of 1.0, super heated vapor or Freeboard refrigeration device, reduced room draft or Freeboard refrigeration device, freeboard ratio of 1.0 or Freeboard refrigeration device, dwell or Reduced room draft, dwell, freeboard ratio of 1.0 or Freeboard refrigeration device, carbon adsorber or Freeboard ratio of 1.0, super heated vapor, carbon adsorber.	0.22	
Batch vapor cleaning machines (>1.2 m ²)	Working-mode cover, freeboard refrigeration device, super heated vapor or Freeboard refrigeration device, reduced room	0.22	

Cleaning machine type/size (m ² solvent/air interface area)	Control combination options	or	Idling limits (kg/hr per m ² solvent/air interface area)
	draft, super heated vapor or Freeboard refrigeration device, freeboard ratio of 1.0, super heated vapor or Reduced room draft, freeboard ratio of 1.0, super heated vapor or		
Batch vapor cleaning machines (>1.2 m ²) (Continued)	Freeboard refrigeration device, reduced room draft, freeboard ratio of 1.0 or Freeboard refrigeration device, reduced room draft, dwell or Freeboard refrigeration device, super heated vapor, carbon adsorber		
All batch cold cleaning machines	Cover, water layer or Cover, freeboard ratio of 0.75 or Cover, remote reservoir		N/AC
All existing in-line cleaning machines	Superheated vapor, freeboard ratio of 1.0 or Freeboard refrigeration device, freeboard ratio of 1.0 or Dwell, freeboard refrigeration device or Dwell, carbon adsorber		0.10
All new in-line cleaning machines	Superheated vapor, freeboard refrigeration device or		0.10

Cleaning machine type/size (m ² solvent/air interface area)	Control combination options	or	Idling limits (kg/hr per m ² solvent/air interface area)
	Freeboard refrigeration device, carbon adsorber or Superheated vapor, carbon adsorber		

^aEach owner or operator of a solvent cleaning machine would adopt one of the control combinations listed in table 1 or demonstrate that their solvent cleaning machine can achieve and maintain

specified idling emission limits (kg/hr per m² of solvent/air interface area).

^bIn addition to the listed control equipment in Table 1, all batch vapor and in-line cleaning machines

are require to have an automated hoist and an idling-mode cover.

^cN/A = not applicable.