FACT SHEET
NESHAP FOR WOOD FURNITURE MANUFACTURING OPERATIONS

BACKGROUND

* On July 16, 1992 (57 FR 31576), pursuant to Section 112 of the Clean Air Act, "Wood Furniture (Surface Coating)" was listed as a source category to be regulated under Section 112.

* The purpose rule would apply to facilities engaged in the manufacture of wood furniture that are major sources. The affected emission points are defined in Table 1.

TABLE 1. APPLICABILITY OF THE PROPOSED RULE

Affected Sources	Emission Points	Applicable Sections of Subpart JJ
The proposed rule would apply to facilities engaged in the manufacture of wood furniture that are major sources as defined in 40 CFR part 63. Applicable SIC codes include 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, and 2599.	Finishing, gluing, cleaning, and washoff operations	63.800
Sources that commit to using no more than 250 gallons per month, or 3,000 gallons per rolling 12 month period, of coating, gluing, cleaning, and washoff materials, including materials used for source categories other than wood furniture, are area sources and are not subject to any other provisions of this rule.	All emission points at the source.	63.800 (b)

* The proposed rule would establish emission limits for finishing materials, adhesives, and strippable spray booth coatings. It also specifies work practices that minimize evaporative emissions from the storage, transfer, and application of coatings and solvents.

* The proposed rule was developed largely through a regulatory negotiation with representatives from the furniture manufacturing industry (including small business), the coatings industry, environmental groups and State agencies. The emission limitations for adhesives were developed by EPA, with input from both wood furniture manufacturers and adhesives manufacturers, outside of the regulatory negotiation.

RECOMMENDED STANDARDS

* BASIS: For finishing operations at new and existing affected sources, the proposed emission limit is based on the use of finishing materials with low volatile HAP(VHAP) levels or the use of control devices. For gluing operations, it is based on the use of adhesives with low VHAP level or the use of control devices. For cleaning operations, it is based on the use of low-VOC strippable coatings for spray booths that minimize emissions during cleaning. For storage, transfer, and application of coatings and solvents, the standard would require work practice measures to minimize evaporative emissions.

* All new and existing major source wood furniture plants would be required to meet the emission limits in Table 2 and the work practice measures in Table 3.

COMPLIANCE DATES

* Existing affected sources that emit less than 50 tons per year of HAP would need to comply no later than 3 years after the effective date of the standard. Existing affected sources that emit 50 tons per year or more would need to comply by November 21, 1997. Existing area sources that become major sources would need to comply within 1 year after becoming a major source.

* New affected sources would need to comply upon promulgation of the standard or upon startup, whichever is later. New area sources that become major sources would need to comply upon becoming a major source.

TABLE 2 Summary of Proposed Emission Limits (see 63.802)

Emission Point	Existing Source	New Source
Finishing Operations		
(a) Achieve a weighted average HAP content across all coatings (maximum kg VHAP/kg solids [lb VHAP/lb solids], as applied);	1.0[a]	0.8[a]
(b) Use compliant finishing materials (maximum kg VHAP/kg solids [lb VHAP/lb solids], as applied);		
stains	1.0[a]	1.0[a]
washcoats	1.0[a b]	0.8[a b]
sealers	1.0[a]	0.8[a]
topcoats	1.0[a]	0.8[a]
basecoats	1.0[a b]	0.8[a b]
enamels	1.0[a b]	0.8[a b]
thinners (maximum % HAP allowable); or	10.0	10.0
(c) As an alternative, use a control device; or	1.0[c]	0.8[c]
(d) Use a combination of (b) and (c)	1.0	0.8
Cleaning Operations		
Strippable spray booth material (maximum VOC content, kg VOC/kg solids [lb VOC/lb solids], as applied,	0.8	0.8
Gluing Operations		
Contact adhesives		
(a) Use compliant contact adhesives (maximum kg VHAP/solids [lb VHAP/lb solids], as applied) based on following criteria		
i. For foam adhesives used in products that meet flammability requirements	1.8	0.2
ii. For all other contact adhesives (including foam adhesives used in products not meeting flammability requirements); or	1.0	0.2
(b) Use a control device	1.0[d]	0.2[d]

[a] The limits refer to the HAP content of the coating as applied.

[b] Compliant washcoats, basecoats, and ena mels must be used if they are purchased premade, that is, if they are not formulated onsite by thinning other finishing materials. If they are form ulated onsite, they must be formulated using compliant finishing materials and thinners containing no more than 3.0 percent HAP b y weight.

[c] The control device must operate at an efficiency that is equivalent to no greater than 1.0 kilogram (or 0.8 kilogram) of HAP being emitted form the affecte d emission source per kilogram of solids used.

[d] The control device must operate at an efficiency that is equivalent to no greater than 1.0 kilogram (or 0.2 kilogram) of HAP being emitted from the affecte d emission source per kilogram of solids used.

TABLE 3. SUMMARY OF PROPOSED WORK PRACTICE STANDARDS [a]

EMISSION POINT	WORK PRACTICE
Finishing Operations	
Transfer equipment leaks -63.803 (c),	Develop written inspection and maintenance plan to address and prevent leaks. The plan must identify a minimum inspection frequency of 1/month.
Storage containers, including mixing equipment -63.803 (g)	When such containers are used for HAP or HAP-containing materials, keep covered when not in use.
Application equipment -63.803(h)	Discontinue use of air spray guns. [b]
Finishing materials -63.803 (l)	Demonstrate that usage of HAP of potential concern have not increased except as allowed by proposed standards; document in the formulation assessment plan.
Cleaning Operations	
Gun/line cleaning -63.803 (I) and (j)	- Collect cleaning solvent into a closed container. - Cover all containers associated with cleaning when not in use.
Spray booth cleaning -63.803 (f)	Do not use solvents unless cleaning conveyors, metal filters, or continuous coaters, or the spray booth is being refurbished.
Washoff/general cleaning -63.803 (e) -63.803 (k) -63.803 (k) -63.803 (d) -63.803 (d)	 - Do not use chemicals that are known or probable human carcinogens in cleaning solvents in concentrations subject to MSDS reporting, as required by OSHA. - Keep washoff tank covered when not in use. - Minimize dripping by tilting and/or rotating part to drain as much solvent as possible and allowing sufficient dry time. - Maintain a log of the quantity and type of solvent used for washoff and cleaning, as well as the quantity of waste solvent shipped offsite, and the fate of this waste (recycling or disposal). - Maintain a log of the number of pieces washed off, and the reason for the washoff.
Miscellaneous	
Operator training -63.803 (b)	All operators shall be trained on proper application, cleanup, and equipment use. The training program shall be written and retained onsite.
Implementation plan -63.803 (a)	Develop a plan to implement these work practice standards and maintain onsite

[a] The proposed work practice standards apply to both existing and new major sources.

[b] Air guns will be allowed only in the following instances:

- when they are used in conjunction with coatings that emit less than 1.0 kg VOC per kg of solids used;
- touchup and repair under limited conditions;
- when spray is automated;
- when add-on controls are employed;
- if the cumulative application is less than 5 percent of the total gallons of coating applied; or
- if the permitting agency determines that it is economically or technically infeasible to use other application technologies.

RECOMMENDED COMPLIANCE PROCEDURES

* Affected sources would choose from the following methods to demonstrate compliance with the standard:

-- Emission limit for finishing operations:
1) achieve a maximum allowable weighted average VHAP content across all coatings, 2) use compliant materials, 3) use a control device, or 4) use a combination of compliant materials and control devices.

A source that chooses the weighted average approach would show initial and ongoing compliance by calculating the average mass of VHAP emitted per mass of solids for all finishing materials each month, including any thinner added at the plant, and verifying that it does not exceed the emission limitation.

A source that uses compliant finishing materials can demonstrate initial and ongoing compliance by measuring the mass of VHAP emitted per mass of solids for each material, as applied (or use data based on those measurements).

A source that uses a control device would demonstrate initial compliance by conducting performance testing; ongoing compliance would be demonstrated by continuously measuring and recording site-specific operating parameters, the values of which are established during the initial compliance test.

-- Emission limits for gluing operations:
Use compliant adhesives or use a control device.
Initial and ongoing compliance can be demonstrated by measuring the mass of VHAP emitted per mass of solids for each contact adhesive, as applied. For control devices, initial and continuous compliance are demonstrated as described above.

-- Emission limits for cleaning operations:
Use compliant strippable spray booth materials.

-- Work practice standards:
Develop and implement a Work Practice Implementation Plan.

REPORTING AND RECORDKEEPING

* The recordkeeping requirements associated with the proposed rule are summarized in Table 4. All affected sources would be required to maintain for 5 years all records necessary to demonstrate compliance with the standards.

* Initial notification and a compliance status report are required by the General Provisions (Subpart A to Part 63, in particular, see 63.9). The compliance status report should include calculations (for the weighted average approach) or performance test results (for control devices) demonstrating initial compliance with the emission limits.

* Semiannual reporting is required. A source using compliant finishing materials, thinners, adhesives, or strippable spray booth coatings must certify that compliant materials are being used. A source using a weighted average approach must provide copies of emission calculations for the previous 6 month period. Each source also must certify compliance with the Work Practice Implementation Plan.

* All of the reporting and recordkeeping requirements of the General Provisions (Subpart A to Part 63) apply for sources using control devices. Sources using control devices that experience excess emissions must follow a quarterly reporting format for at least one year after the excess emissions occur and until a request to reduce reporting frequency is approved.

TABLE 4. RECORDKEEPING REQUIREMENTS

Records Required	Applicability	Applicable Sections of Subpart JJ
Certified product data sheets for each regulated finishing material, booth coating, thinner, and adhesive.	All affected sources.	63.806 (b)
The VHAP content, in kg VHAP/kg solids (1b VHAP/lb solids), as applied of each finishing material and adhesive subject to the emission limits in 63.802.	All affected sources.	63.806 (b)
Quantity of finishing materials and thinners to support calculations for Equation 1 and copies of the averaging calculation.	Sources using an averaging approach to comply with emission limitations for finishing.	63.806 (c)
Solvent and coating additions, viscosity measurements, and data demonstrating relationship between viscosity and VHAP content.	Sources using a compliant coatings approach and applying coatings with a continuous coater.	63.806 (d)
Copy of the work practice implementation plan and records associated with fulfilling the requirements of the plan.	All affected sources.	63.806 (e)
Calculations demonstrating that the overall control efficiency of the control system is sufficient to reduce emissions from finishing or gluing operations to the required level.	Affected sources using a control system to comply with the emission limitations for finishing or gluing.	63.806 (f) & 63.806 (g)
Copy of the compliance certifications and any information submitted with the compliance status reports.	All affected sources.	63.806 (h) & 63.806 (i)

IMPACTS (Nationwide impacts)

* Volatile HAP emissions: reduction of at least 59 percent from 50,600 Mg/yr (55,800 tons/yr) to 20,800 Mg/yr (23,000 tons/yr). The actual reduction will be higher because the impact of many work practice standards could not be quantified.

* Energy and Secondary air pollution: None. The use of control devices would increase these impacts, but it is anticipated that most sources will meet the limits through the use of finishing materials that comply with the rule.

* Water/Solid waste/Noise: No negative impact expected.

* Costs: The total industry-wide capital investment is estimated to be $7.0 million. The total nationwide annual cost is estimated to increase by $15. million.

* Economic: Implementation of the proposed NESHAP is expected to result in market price increases of 0.07 percent or less. Total employment losses were estimated at 0.22 percent of total industry employment. Reductions in market output were estimated to be between 0.03 and 0.2 percent, depending on the type of furniture produced. Three out of the 750 plants were predicted to close. The proposed NESHAP would not have a significant economic impact on small business entities.

Control Techniques Guidelines (CTG)

* Section 183 (a) of the Clean Air Act requires that EPA issue CTG's for 11 categories of stationary sources of volatile organic compound (VOC) emissions. The EPA is developing a CTG for the wood furniture manufacturing industry as part of this requirement.

* The status of the CTG and the basis for selecting the regulatory alternatives were presented to the National Air Pollution Control Techniques Advisory Committee (NAPCTAC) in November 1991. In June of 1993, the Federal Advisory Committee was chartered to develop the CTG, concurrently with the NESHAP, through a regulatory negotiation. Due to the court ordered deadline for the NESHAP, work on the CTG lags somewhat behind the NESHAP.

* A draft of the model rule for wood furniture finishing and cleaning operations was distributed to EPA's Regional Offices, State and local Agencies, and the public (through OAQPS's Technology Transfer Network and the EPA's Control Technology Center) in June 1994. This document, when final, will be an appendix to the CTG.