

Air Program Fact Sheet The Wood Furniture MACT

February 2017

What is the Wood Furniture MACT?

The U.S. Environmental Protection Agency (US EPA) issued a rule that would limit the emissions of hazardous air pollutants (HAPs) from new and existing wood furniture manufacturing operations. These are nationwide standards intended to protect the public by requiring the control of HAP emissions through the use of maximum achievable control technology (MACT).

Who is affected?

This MACT standard applies to major sources engaged, either in part or in whole, in the manufacture of wood furniture or wood furniture components.

Wood furniture means any product manufactured under any of the following Standard Industrial Classification (SIC) codes—2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599, and 5712—and made of wood, a wood product such as rattan or wicker, or an engineered wood product such as particle board. Wood furniture component means any part that is used in the manufacture of wood furniture.

Examples include, but are not limited to, drawer sides, cabinet doors, seat cushions and laminated tops.

A facility is a major source if it emits, or has the potential to emit, 10 tons per year or more of any HAP or 25 tons per year or more of any combination of HAPs (when considering control equipment). HAP emissions from all operations must be considered when determining if a plant site is a major source. Operations not associated with wood furniture manufacturing or finishing must be included in emissions calculations.

Owners and operators can misunderstand the term “potential to emit.” This term refers to the highest possible emissions if a facility were to operate at the full capacity of its equipment. It does not refer to the highest recorded emissions to date.

While a facility may have very small emissions under normal operations, the **potential** to emit may be above the major source level. It is very important to know the difference between actual emissions and potential to emit in order to stay in compliance.

Exemptions

The following facilities are not subject to this MACT standard. A facility may be exempt under one of these provisions even if it is a major source. A permit to operate is not needed if these exemptions are met.

1. A manufacturer that is a major source but primarily manufactures products other than wood furniture or wood furniture components, if that facility **uses no more than 100 gallons per month** of finishing material or adhesives in the manufacture of wood furniture or wood furniture components (an incidental wood furniture manufacturer). Purchase or usage records must be kept demonstrating that the source meets the material usage criteria.
2. A manufacturer that **never uses more than 250 gallons per month** of coating, gluing, cleaning and wash-off materials, including usage for manufacturing operations other than wood furniture or wood furniture components. Materials used in routine janitorial and facility grounds maintenance, for personal use by employees and others or for maintaining motor vehicles operated by the facility may be excluded.

Coating, gluing, cleaning and wash-off materials associated with wood furniture or wood furniture components **must account for at least 90%** of the manufacturer's annual HAP emissions. Records to demonstrate that the 90% criterion is being met, along with records of the total monthly gallons of coating, gluing, cleaning and wash-off material used, must be maintained.

3. A manufacturer that **never uses more than 3000 gallons during any 12 consecutive month period** of coating, gluing, cleaning and wash-off materials. This includes usage for manufacturing operations other than wood furniture or wood furniture components. Those materials excluded under the second exemption may also be excluded here.

The 90% criterion described under the second exemption also applies here. Records to demonstrate that the 90% criterion is being met, along with records of the total gallons of coating, gluing, cleaning and wash-off material used per month and each previous month, must be maintained. Records must be kept over each consecutive 12-month period.

4. A manufacturer that has **actual emissions of no more than 5 tons of any one HAP, or no more than 12.5 tons of any combination of HAPs, during any 12 consecutive month period**. This includes emissions from source categories other than wood furniture. At least 90% of the manufacturer's HAP emissions during the 12-month period must be associated with the manufacture of wood furniture or wood furniture components. Follow the instructions above to track the 90% figure.
5. Research or laboratory facilities are also exempt.

What does an exempt facility need to do?

For any of the above exemptions, whether based on usage or emissions, records **must** be maintained showing that the facility meets the exemption level at all times. Records should include monthly usage of all finishing, gluing, cleaning and wash-off materials, certified product data sheets for these materials and any other records necessary to document emissions from processes other than wood furniture or components.

If a facility is using exemption #4, monthly emissions must be carefully monitored when they approach the levels shown. A facility must **apply for and receive** a synthetic minor operation permit from DNR **before** exceeding an exemption level in order to stay in compliance. If one of the levels in exemption #4 is exceeded and a permit restricting emissions below the major source level has not been received, then the facility will be required to comply with the MACT standard.

For information on applying for a permit, go to the DNR's Permit Primer (<http://dnr.wi.gov/topic/SmallBusiness/Primer/>). Click on the Air section, follow the prompts for an existing business and bypass the exemptions. The Primer will walk through sections of the permit application to help determine which forms to submit. The Small Air Sources webpage explains certain permit options that keep emissions below major source thresholds: <http://dnr.wi.gov/topic/SmallBusiness/SmallAirSources.html>. Contact the Small Business Environmental Assistance Program (SBEAP), as shown at the end of this fact sheet, for assistance.

Compliance schedule

Existing wood furniture operations should already be in compliance with all applicable requirements of the Wood Furniture Surface Coating MACT rule. Some facilities were initially exempt from the rule, but if growing production levels have resulted in increased emissions, they may have exceeded the exemption levels without realizing and may need to re-evaluate their status.

New major sources must comply immediately upon startup. A new facility that is not a major source, but which later becomes a major source, must comply **immediately** upon becoming a major source.

Initial notification

The deadline for existing sources to submit an initial notification has passed. New or reconstructed sources are required to submit an initial notification no later than 120 days after initial startup. If a facility missed any deadline, contact a local DNR Air Program compliance inspector to determine how to come into compliance.

Emission limits

The MACT includes limits on the volatile hazardous air pollutant (VHAP) content of finishing materials and contact adhesives and on the VOC content of strippable spray booth coatings. See Table 3 in Appendix A for a summary of these limits and the methods required to comply. Because the list of VHAPs is quite long, refer to EPA's guide, *Wood Furniture Manufacturing Operations NESHAP Implementation Document*, EPA-456/R-97-005. It is available on the web at <https://www.epa.gov/stationary-sources-air-pollution/wood-furniture-manufacturing-operations-national-emission-standards>.

Work practice standards

In addition to numerical emission limits, work practice standards are included to reduce waste and evaporation of HAPs. See Appendix A for these standards. The work practice standards include good housekeeping and material tracking, employee training, inspection and maintenance and application equipment restrictions. These practices focus attention on quality control issues that will result in the minimization of HAP and volatile organic compound emissions. Table 4 contains a summary of the work practice standards.

Record keeping and reporting

All facilities will be required to maintain records and provide periodic reports to the air pollution control agency. The specific records that must be maintained depend on the compliance demonstration method being used. Reports must be submitted to support and certify both initial and continuous compliance. The specific information that must be included in these reports depends on the compliance demonstration method being used. Compliance certification reports to certify continuing compliance are due every 6 months, as indicated in the facility's operation permit.

Additional information

It is important to understand that exemption from these requirements does not exempt a facility from other air pollution regulations. SBEAP has resources to help facilities determine what rules apply and how to show compliance with them on the *Compliance Resources* page, at <http://dnr.wi.gov/topic/SmallBusiness/Compliance.html> and select the "Air" tab.

For more information, contact SBEAP staff at 855-889-3021 or DNRSmallBusiness@wisconsin.gov or visit their web page (<http://dnr.wi.gov/topic/SmallBusiness/>). Contact information for Air Management Program staff can be found at: <http://dnr.wi.gov/topic/AirQuality/Contacts.html>.

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Appendix A – Wood Furniture MACT Standards

Table 3—Summary of Emission Limits and Compliance Demonstration Methods

| Emission point | Existing source | New source |
|---|---|-------------------------------|
| | maximum lb VHAP/lb solids, as applied (unless otherwise stated) | |
| Finishing Operations: | | |
| (a) Achieve a monthly weighted average VHAP content across all finishing materials; | ^a 1.0 | ^a 0.8 |
| (b) Use compliant finishing materials: | | |
| --stains | ^a 1.0 | ^a 1.0 |
| --sealers | ^a 1.0 | ^a 0.8 |
| --topcoats | ^a 1.0 | ^a 0.8 |
| --washcoats | ^a ^b 1.0 | ^a ^b 0.8 |
| --basecoats | ^a ^b 1.0 | ^a ^b 0.8 |
| --enamels | ^a ^b 1.0 | ^a ^b 0.8 |
| --thinners (maximum percent VHAP allowable); or | 10.0 | 10.0 |
| (c) As an alternative, use a control device; or | ^c 1.0 | ^c 0.8 |
| (d) Use any combination of (a), (b), and (c) | 1.0 | 0.8 |
| Cleaning Operations: | | |
| Strippable spray booth coatings (maximum VOC, lb VOC/lb solids) | 0.8 | 0.8 |
| Contact Adhesives: | | |
| (a) Use compliant contact adhesives based on following criteria: | | |
| i. For aerosol adhesives, and for contact adhesives applied to nonporous substrates; | ^d NA | ^d NA |
| ii. For foam adhesives used in products that meet flammability requirements; | 1.8 | 0.2 |
| iii. For all other contact adhesives (including foam adhesives used in products that do not meet flammability requirements); or | 1.0 | 0.2 |
| (b) Use a control device | ^e 1.0 | ^e 0.2 |
| All Finishing Operations and Contact Adhesives: | | |
| (a) Achieve total free formaldehyde emissions across all finishing operations and contact adhesives, lb per rolling 12 month period, as applied | 400 | 400 |
| (b) Use coatings and contact adhesives only if they are low-formaldehyde coatings and contact adhesives | ^f 1.0 | ^f 1.0 |

^a The limits refer to the VHAP content of the coating, as applied.

^b Washcoats, basecoats, and enamels must comply with the limits presented in this table if they are purchased premade, that is, if they are not formulated onsite by thinning other finishing materials. If they are formulated onsite, they must be formulated using compliant finishing materials, i.e., those that meet the limits specified in this table, and thinners containing no more than 3.0 percent VHAP by 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 VHAP being emitted from the affected emission source per kilogram of solids used.

^d There is no limit on the VHAP content of these adhesives.

^e The control device must operate at an efficiency that is equivalent to no greater than 1.0 kilogram (or 0.2 kilogram) of VHAP being emitted from the affected emission source per kilogram of solids used.

^f The limits refer to the formaldehyde content by weight of the coating or contact adhesive, as specified on certified product data sheets.

Table 4--Summary of Work Practice Standards

| Cleaning Operations | |
|--|--|
| Cleaning and wash-off solvent accounting system | Prepare and maintain a log of: <ol style="list-style-type: none"> 1. The quantity and type of solvent used each month for washoff and cleaning; 2. The number of pieces washed and the reason; and 3. The quantity of spent solvent generated each month and whether it is recycled onsite or disposed offsite. |
| Chemical composition of cleaning and wash-off solvents | Only use cleaning or wash-off solvents that do not contain any of the pollutants listed in Table 2 of the rule (https://www.gpo.gov/fdsys/pkg/CFR-2015-title40-vol11/pdf/CFR-2015-title40-vol11-part63-subpartJJ.pdf) in concentrations subject to SDS reporting as required by OSHA. |
| Spray booth cleaning | Do not use solvents containing more than 8.0 percent by weight of VOC for cleaning spray booth components. (Exceptions are provided for some equipment and components.) Other restrictions apply when refurbishing a spray booth. |
| Gun and line cleaning | Collect all organic solvent used for cleaning lines and guns into normally closed containers. |
| Wash-off operations | Control emissions from wash-off operations by covering wash-off tank when not in use and minimizing dripping by tilting or rotating parts to drain as much solvent as possible. |
| Finishing Operations | |
| Application equipment | Use of conventional air spray guns to apply finishing materials is allowed only if emissions from the finishing operations are directed to a control device. |
| Formulation assessment plan for finishing operations | Prepare and maintain an assessment plan which addresses specific tracking, recording, and reporting requirements for 10 VHAPs of potential concern identified in Table 5 of the rule (see link above). |
| Plans and Other Requirements | |
| Work practice implementation plan | Prepare and maintain a written work practice implementation plan which addresses each of the work practice standards. The plan must be developed within 60 days of the final compliance date. |
| Operator training | Personnel involved in finishing, gluing, cleaning and wash-off operations, and use of manufacturing equipment must receive proper training. Annual refresher training is required. A written copy of the training program must be maintained onsite. |
| Inspection and maintenance plan | Prepare and maintain a written inspection and maintenance plan for all equipment used to transfer or apply coatings, adhesives, or organic solvents. A minimum inspection frequency of once per month is required. |
| Storage requirements | Use closed containers for storing finishing, gluing, cleaning, and wash-off materials. |