



FACT SHEET

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Wood Furniture Manufacturing... What You Need to Know To Comply

If you own or operate a facility that manufactures wood products and has the potential to emit 10 tons of a single hazardous air pollutant (HAP) or 25 tons of a combination of HAPs annually, then you may have to comply with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) for the manufacture of wood products.

Manufacturers of wood products in Standard Industrial Classification codes 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541, 2599 and 5712 are affected by this NESHAP.

The 1990 Clean Air Act (CAA) directs the U.S. Environmental Protection Agency (EPA) to regulate emissions into the air of 189 toxic chemicals. To control emissions of these chemicals, the EPA issues National Emission Standards for Hazardous Air Pollutants (NESHAPs).

On December 7, 1995, the EPA finalized a rule covering air emissions of Hazardous Air Pollutants (HAPs) from wood furniture finishing operations. This regulation targets wood furniture manufacturers because HAPs are emitted during the application or use of paints, lacquers, stains, solvents, glues, etc. in the manufacturing process.

If your company emits 10 tons of any one HAP or 25 tons of any combination of HAPs then you have responsibility under this NESHAP. Reducing your emissions below these levels can eliminate the need to comply with this standard. However, if compliance with this NESHAP is unavoidable, then there are two basic components with which your facility must comply:

-HAP Content Limit

You will only be allowed to use finishing materials that have HAP content levels at or below the established limits.

-Work Practices

In addition to the HAP content limits, you will have to start using the work practices set forth in the rule.

If you are unsure of how to calculate your emission levels then call the Business Environmental Program listed below for free, non-regulatory assistance. In the meantime, begin incorporating the Work Practices requirement, and implement the emissions reduction opportunities detailed in this fact sheet, as these are practices that will benefit your company, workers and the environment.

NOTE: This guidance document was developed by Business Environmental Program of the University of Reno (BEP-UNR) with funding provided by Nevada Division of Environmental Protection (NDEP). This guidance document does not and is not intended to replace or supersede either Code of Federal Regulation, Nevada Revised Statutes, Nevada Administrative Codes. BEP-UNR advises the regulatory community not to rely solely upon the information presented in this guidance document, but to read all applicable regulations set forth in both Title 40 C.F.R., Part 260-279, Nevada Hazardous Waste Regulations and keep informed of all subsequent revisions or amendments to these regulations. <http://www.unrbep.org>

BEP Toll-Free Assistance (800) 882-3233 (In Nevada) or (775) 689-6688
BEP Las Vegas (702) 866-5962

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EMISSION REDUCTION OPPORTUNITIES

A small business can take advantage of pollution prevention opportunities to minimize potential air quality liability as a manufacturer of wood products. Pollution prevention is minimizing or eliminating waste generation at the source, through careful choice and management of materials, production inputs, work practices and processes.

Equipment Cleaning

By carefully managing your cleaning practices, you can minimize use of cleaning materials.

- Determine whether cleaning is really necessary — you may find that it is not.
- Minimize the number of times you clean your equipment. Apply light-colored finishing materials first, then
- progressively use darker coatings whenever possible.
- Flush equipment first with dirty solvent before final cleaning with virgin solvent, or preclean items with rags
- before cleaning with solvents.
- Use enclosed gun cleaners.
- Use solvents until they lose their effectiveness, as opposed to when they look dirty.

Substitute Materials

The wood furniture Maximum Achievable Control Technology (MACT) standard allows for the use of low- volatility HAP coatings and cleaning solutions. Work closely with suppliers to identify substitutes for raw materials containing solvents.

- High Solids Coatings — High solids coatings are solvent-borne coatings with at least 50 percent solids content.
- Water-borne Coatings — Waterborne coatings contain water as well as some solvent. They are used in the industry on open-pore and lighter-colored woods.
- UV-Curable Coatings — UV-curable coatings can be 100 percent reactive liquids, and require UV light for curing.

Manage Inventory

Too much inventory or lack of inventory control can lead to wasted materials, either by using more than needed or purchasing materials that deteriorate before use.

- Work closely with suppliers to provide just-in-time material delivery. Order accurate amounts needed.
- Use a multi-purpose solvent. This can reduce your costs of managing waste and facilitate recycling.
- Return unused materials to your supplier (make arrangements up front, before purchase).
- Explore the possibility of returning materials with expired shelf life to your supplier.

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Modify Production Process

A more technical pollution prevention activity is modifying your production process. This includes worker training, substituting or modifying equipment, increasing automation, or redesigning or reformulating your end product. Begin making modifications in the equipment used to apply coatings to your wood surfaces.

- Training — Skillful use of spray guns can significantly and consistently increase transfer efficiency of coating materials. In wood finishing tests carried out under realistic conditions, expert sprayers achieved higher transfer efficiencies than novices 90 percent of the time.
- High Volume/Low Pressure (HVLP) Spray Equipment — HVLP spray guns operate at low pressure, such as 10 psi, compared to 30-90 psi with conventional spray guns. HVLP spray guns are effective for both solvent- and water-borne materials and increase transfer efficiency up to 40-70 percent.
- Airless Spray Equipment — Airless spray systems atomize the coating by increasing the coating's fluid pressure (ranges from 500-6,500 psi) without introducing a pressurized air flow. Transfer efficiency ranges from 36-65 percent.
- Air-Assisted Airless Spray Equipment — These systems combine compressed air atomization with airless atomization. About 85 percent of the coating is atomized by fluid pressure (150-800 psi), and 15 percent is atomized by air pressure (5-30 psi) supplied at the nozzle. Transfer efficiency can range from 40-70 percent.

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