



Minnesota
Pollution
Control
Agency

Air Quality Rules Affecting Autobody Shops with Paint Spraying Equipment

Air Quality #5.13 • August 2008

If you operate an autobody shop that sprays paint, federal and state environmental regulations intended to help keep our air clean may affect your business. Many small businesses are required to obtain air emission permits from the Minnesota Pollution Control Agency (MPCA). These permits help you ensure that your business is complying with applicable state and federal air quality regulations. If your autobody shop needs a permit, you need to apply for one as soon as possible if you haven't already done so.

Auto body shops are also regulated by National Emission Standards for Hazardous Air Pollutants (NESHAP). NESHAPs may apply to you even if you determine that you do not need an air permit. See page three of this fact sheet for more information.

Why an autobody shop would need a permit

Many paints and solvents contain Volatile Organic Compounds (VOC), which are regulated because they contribute to poor air quality and the formation of smog. Paints and solvents may also contain Hazardous Air Pollutants (HAP). HAPs are regulated because they have the potential to cause health problems and environmental contamination at very low concentrations. VOCs and HAPs are the most common materials that would require an autobody shop to obtain an air emission permit.

Pollution Prevention Can Pay

If your shop will need some type of air emissions permit, you may be able to make the permitting and compliance process easier, or eliminate it altogether, by reducing the amount of paints and solvents you use. Reducing your use of hazardous substances can also cut costs and liability for your shop while protecting the health of your employees and the environment.

Reductions can be made by changing your painting operations or purchasing more efficient painting equipment. Consider using high-solids paints, waterborne paints, or aqueous cleaners.

More information on reducing your paint and solvent usage can be found through trade associations and journals, vendors, and the Minnesota Technical Assistance Program (MnTAP). For more information about solutions available through MnTAP, call 612-624-1300.

Many small shops will not need a permit

Check the Material Safety Data Sheets (MSDS) to see if the materials your shop uses contain VOCs. If the MSDSs show that the materials contain VOCs, you will have to calculate annual VOC usage to determine whether or not you need an air emissions permit.

If you use less than 200 gallons of VOCs per year, and your only sources of air pollution are paints and solvents that contain VOCs, you do not need to apply for an air emissions permit.

Calculating your VOC usage

It is easy to figure out how many gallons of VOCs your shop uses each year. In most cases, all the information you need to calculate annual VOC usage at your shop can be found in your MSDSs. You can figure out annual VOC usage by doing the following calculation:

$$\%VOC \text{ by volume} \times \frac{\text{gallons material}}{\text{year}} = \frac{\text{gallons VOC}}{\text{year}}$$

Complete this calculation for each material that contains VOCs and add up the results. If the total is less than 200 gallons of VOCs used per year, you will not have to apply for a permit. Make sure to keep monthly records of your VOC purchase or use to show that you do not need a permit.

If you think that at any time your shop will purchase or use more than 200 gallons per year of VOCs, you will need to apply for an air emissions permit.

How to apply for your permit

If your shop needs a permit, there are several different permit options available. In Minnesota, many autobody shops can comply with federal and state permitting regulations by applying for a simplified permit called a "Registration Permit." There are three types of Registration Permits that may be useful for an autobody shop.

Option B Registration Permit

Autobody shops whose only source of air pollution is paints and solvents that contain VOCs may qualify for an Option B Registration Permit. You can apply for this permit if you purchase or use less than 2,000 gallons of VOC-containing material (such as paint or solvents) in a twelve-month period and you have no other significant sources of air pollution.

To determine if you qualify for an Option B permit, check the MSDSs to see if any materials you use contain VOCs. For those materials that do contain VOCs, add up the number of gallons of material you purchased or used in the previous twelve months. For an Option B permit, you don't need to calculate the exact amount of VOCs your shop uses.

If you think it will be difficult to stay below the 2,000 gallons per year limit, or if you expect your business to grow substantially, an Option B permit may not be the right choice for your facility.

Option C and Option D Registration Permits

As long as the amount of specific air pollutants emitted by your shop is below certain levels, you can apply for either an Option C or an Option D Registration Permit. Applying for either of these types of permits is a little more involved than applying for an Option B Registration Permit, but the process is still fairly simple.

Option C permits are for autobody shops that also operate diesel generators and some large furnaces or boilers (this does not include kerosene, natural gas, or propane space heaters).

Option D is for larger shops and requires you to calculate the actual amounts of air pollution your facility emits. You should be able to complete the calculations using information from your MSDSs.

The MPCA staff have already calculated emissions from many specific sources and have determined them to be "insignificant sources" of air pollution. For a list of insignificant sources, please refer to the fact sheet "Air Quality Requirements for Automotive Repair Shops" at www.pca.state.mn.us/air/pubs/5-12.pdf. You do not have to calculate the emissions for insignificant sources.

For more information on Registration Permits, including limits and recordkeeping requirements, please visit www.pca.state.mn.us/air/pubs/index.html#factsheets, and click on "Registration Permits."

How to apply for a permit in larger shops

Some larger shops may not be able to qualify for any type of simplified permit and will have to apply for the standard air quality permit required of larger sources of air pollution. If you don't qualify for Option B, C or D Registration Permits, call the MPCA for further information.

More information about permits

If you are a small business with fewer than 100 employees and would like help understanding the air permitting regulations or filling out an application, please call the Small Business Environmental Assistance Program at 651-282-6143 or 800-657-3938.

NESHAPs

Now that you have made your permit determination, it is time to think about the NESHAP.

NESHAP for solvent cleaning

If you use halogenated solvents for parts cleaning, degreasing, or drying, you may be required to comply with the federal standard that covers the use of this type of solvent. This federal standard affects the use of cleaners that contain more than five percent by weight of methylene chloride, trichloroethylene, 1,1,1-trichloroethane, perchloroethylene, carbon tetrachloride, or chloroform. If you use cleaning solvents at your shop, check the MSDSs for the cleaners to see if any of them contain more than five percent by weight of any of these six chemicals.

For further guidance, please visit www.pca.state.mn.us/programs/sbap-sectors.html#solvent.

NESHAP for paint stripping and surface coating

Auto body shops that spray paint are also regulated by a new NESHAP rule. On January 9, 2008, the U.S. Environmental Protection Agency (EPA) issued a NESHAP rule addressing (HAP) emissions at area source facilities conducting paint stripping and miscellaneous surface coating activities. The rule (40 CFR pt 63, subp. HHHHHH) regulates facilities conducting the following activities:

- paint stripping operations that use materials containing methylene chloride
- spray application of coatings to motor vehicle and mobile equipment, including mobile repair operations
- spray application of coatings to plastic and/or metal parts and products, if the coatings used contain one or more of the target HAPs (chromium, lead, manganese, nickel, or cadmium)

How to know if this rule applies to your shop

Autobody shops are subject to the portion of the rule that regulates spray application of coatings to motor vehicles. 'Motor vehicles' is defined as including automobiles, light trucks, heavy duty trucks, buses, construction equipment, self-propelled vehicles, and equipment that may be drawn and/or driven on a roadway.

The only exemptions are for the activities and materials listed here. Otherwise, your shop must comply with the requirements detailed below.

Activities not subject to regulation by the standard are:

- certain federal facilities that do motor vehicle coating
- research or laboratory activities used to develop new coatings or coating applications
- paint stripping activities conducted for quality control of a manufactured product
- painting and stripping of the building or the equipment within the building
- the surface coating of mobile equipment in the field, such as farming or mining equipment, or mobile equipment coated at a site where it is used, such as a fork truck coated at a manufacturing facility.
- activities that are covered by another NESHAP
- painting or stripping performed by individuals on two or fewer vehicles per year as a hobby, as maintenance, or without compensation
- adhesives, sealants, maskants, or caulking materials
- coatings applied from a hand-held device with a paint cup capacity that is equal to or less than 3.0 fluid ounces
- surface coating application using hand-held, non-refillable aerosol containers, powder coating, or non-atomizing application technology, including paint brushes, rollers, hand wiping, flow coating, dip coating, electrodeposition coating, web coating, coil coating, touch-up markers, or marking pens
- thermal spray operations (also known as metallizing, flame spray, plasma arc spray, and electric arc spray) in which solid material is heated to a molten or semi-molten state and propelled to the work piece or substrate by compressed air or other gas, where a bond is produced upon impact

Facilities applicable to the automotive spray coating regulation can petition for exemption if they are not spraying any of the HAPs targeted by this rule (chromium, lead, manganese, nickel, or cadmium).

Required actions

Equipment

All motor vehicle coating operations (such as autobody shops) are required to:

- Apply the coatings with a High Volume, Low Pressure (HVLP) spray gun, electrostatic spray gun, airless spray gun, air-assisted airless spray gun, or a gun demonstrated to be equal in transfer efficiency to an HVLP spray gun.
- Apply the coatings in a prep station or spray booth, which if large enough to hold a complete vehicle must have a roof and four complete side walls or curtains. Otherwise, the prep station or booth must have a roof and three complete side walls or curtains.
- Ventilate spray booths and prep stations at negative pressure so that air is drawn into any openings in the booth walls or prep station curtains. If a spray booth is fully enclosed and has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure.
- Fit the prep station or spray booth with filters demonstrated to achieve at least 98 percent filter efficiency, or use a waterwash booth.
- Demonstrate that no spray gun cleaning is performed by spraying solvent through the gun creating an atomized mist (i.e., spray guns are cleaned in an enclosed spray gun cleaner or by disassembling and cleaning the parts by hand).

Training

Additionally, all painters who spray apply coatings must complete training in techniques that minimize paint overspray and emissions. The initial and refresher trainings may be conducted in-house or off-site, and must address the following topics:

- spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate
- spray techniques for different types of coatings
- routine spray booth and filter maintenance, including filter selection and installation
- environmental compliance with the requirements of this NESHAP rule

For new sources (defined as start-up after September 17, 2007), a painter's initial training must be conducted within 180 days of hiring, and refresher training must be conducted every five years thereafter. Painters who have completed formal training that meets the requirements listed above in the past five years may use that training to demonstrate compliance. For existing sources (defined as start-up on or before September 17, 2007,) the same timetable applies, though painters already on staff have until January 10, 2011, to complete training.

Notification

Facilities subject to this rule are required to notify EPA Region V of their applicability and compliance. New sources must submit an initial notification and a notification of compliance within 180 days of start up. Existing sources have until January 11, 2010, to submit an initial notification, and until March 11, 2011, to submit a notification of compliance.

Thereafter, if any submitted information has changed in the previous calendar year, facilities are required to submit an annual report. If an annual report is needed, it must be submitted on or before March 1.

Recordkeeping

Facilities must keep the following records to demonstrate compliance:

- documentation that each painter has completed training, including the dates of initial training and most recent refresher training
- documentation of the filter efficiency
- documentation from the manufacturer that each spray gun that does not meet the definition of an HVLP spray gun, electrostatic spray gun, airless spray gun, or air-assisted airless spray gun has been demonstrated to achieve a transfer efficiency equal to one of the allowed types of spray gun
- copies of notifications and reports that have been submitted
- Records of any deviation, including the date and extent, a description of the deviation, and actions taken to correct the deviation.
- records of any assessments performed in determining compliance for initial notification, notification of compliance status, or annual notification of changes reporting

More information about NESHAPs

The full text of the paint stripping and surface coating rule (with comments and discussion) can be found at www.epa.gov/ttn/atw/area/fr09ja08.pdf.

If you are a small business with fewer than 100 employees and would like help understanding either of these NESHAPs, please call the Small Business Environmental Assistance Program at 651-282-6143 or 800-657-3938. More resources and information are available at www.pca.state.mn.us/programs/sbap-sectors.html#auto. You may also contact the MPCA at 651-296-6300 or 800-657-3864.