Body Repair and Painting

Potential Environmental Impacts

Auto body repair and painting have potential air and water quality impacts. Styrene is the main reactive component of body filler (often referred to as Bondo™) prior to being mixed with hardener. Styrene is toxic to aquatic organisms, is listed as state and federal hazardous air pollutant, and is a possible carcinogen. The dust resulting from the sanding of body filler is not toxic, but should be swept or vacuumed up.

Most paints and solvents contain volatile organic compounds (VOCs) that evaporate quickly and are ignitable. Many paints are also toxic. When released to the atmosphere, VOCs combine with combustion emissions of nitrogen oxides (NO_x) to form ground level ozone, which damages lungs and degrades many materials.

Vent design could cause odors to reach neighboring property

What about Portable Refinishing?

Automotive refinishing utilizing a van or truck is just another form of an auto body repair shop. The fact that it is portable does not lessen the responsibility of the dealership or of the owner or operator of the portable refinishing operation. By allowing this activity, the dealership becomes liable for any air pollution violations that occur at their facility. Ideally, paint repair should be done in a shop environment with environmental controls in place along with proper record keeping in order demonstrating compliance. In addition, any wastes generated during this work must be properly contained, collected and disposed of by the owner or operator of the portable refinishing operation.

Legal Requirements

- The legal requirements that apply to automotive refinishing operations are dependent upon the total number of gallons of VOC-containing paint and solvents used in any twelve (12) month period. Automotive refinishers can 1) limit usage of VOC-containing paints and solvents to **less than 2,000 gallons** in any 12-month period and operate in accordance with RCSA Section 22a-174-3b **or** 2) limit their annual purchase of VOC-containing paints and solvents to **less than 1000 gallons** and operate in accordance with RCSA 22a-174-3c (see below for requirements for these options). Alternatively, if a facility does not limit its usage, it must obtain an individual permit from DEEP [RCSA 22a-174-3a].

1. **RCSA Section 22a-174-3b**

Using HLVP spray gun in booth

- The total amount VOC containing paints and solvents used at the premises **must not exceed 2,000 gallons** in any consecutive 12-month period.
- Paints and coatings must be applied by high volume low pressure spray equipment (HVLP guns), electrostatic application equipment, or any other application method that has a manufacturer's guaranteed transfer efficiency of at least 65%.
- Spray operations must take place in an enclosed area. If a spray booth is used, it must have particulate control equipment that is operated and maintained in good working condition.
- Application equipment must be cleaned in a device or system that remains closed when not in use.
- New and used paints and solvents must be stored in nonabsorbent, non-leaking containers which must be kept closed except when being filled or emptied.
- Absorbent applicators (such as cloth and paper) moistened with paints or solvents must be stored in a closed, non-absorbent, non-leaking container.
- You must keep records of the amount of paint and solvent used, in gallons, for each month and each 12-month rolling aggregate. These records must be kept for a minimum of 5 years and be available for inspection by DEEP.

2. **RCSA Section 22a-174-3c**

- The total amount of all VOC containing paints and solvents (including clean-up and parts washer materials) purchased for the facility **must not exceed 1,000 gallons** in any calendar year.
- You must maintain purchase records to demonstrate compliance with this limit.
- These records must be kept for a minimum of 5 years and be available for inspection by DEEP.

Note: The additional requirements under RCSA Section 22a-174-3b (such as using HVLP guns and keeping containers closed) are good operating practices to follow even if you choose to manage your operation under RCSA Section 22a-174-3c. Automotive refinishing operations are also subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP), which went into effect on January 10, 2011. It has many of the same requirements, but also includes an Initial Notification to U.S. EPA. [Title 40 Code of Federal Regulations Part 63 Subpart HHHHH]. Summary

♦ **Odors:** There are regulations covering emission of odors to the extent that they constitute a nuisance – by being injurious to public health or welfare, or unreasonably interfering with the enjoyment of life or the use of property [RCSA Section 22a-174-23(a)]. Odors from auto refinishing operations can be minimized by properly exhausting the spray booth.

- **Overspray:** Proper controls (such as filters) should be used to capture any overspray from painting operations so that it does not diminish the health, safety or enjoyment of people using a building or structure located beyond the property boundary. [RCSA Section 22a-174-18 (c) (2)].

- **Refinishing Wastes:** You must determine if your vehicle refinishing wastes (including leftover paints, unused body filler, spray gun solvents, rags, paint booth filters and paint-related debris) or any materials used to clean a spill, are hazardous [40 CFR 262.11; RCSA Section 22a-449(c)-102(a)(2)(A)]. See Appendix A for more information on hazardous waste determinations and proper storage and disposal requirements.

- **VOC Content:** The U.S. EPA has a rule that limits the VOC content of all vehicle-refinishing coatings. Although these lower VOC paints are more expensive to buy, they provide better coverage and this can translate into significant overall savings. The manufacturer's guidelines for proper mixing and application techniques should be followed to avoid inferior finishes that exceed the VOC standards.

For more information about air emission requirements, contact DEEP's Bureau of Air Management at 860-424-4152.

Legal References

- Permit to Construct and Operate Stationary Sources - RCSA 22a-174-3a
- Exemptions from - RCSA Section 22a-174-3b
- Limitations on potential to emit - RCSA Section 22a-174-3c
- Control of particulate matter and visible emissions - RCSA Section 22a-174-18 (c) (2)
- Control of odors - RCSA Section 22a-174-23(a),
- Standards Applicable to Generators of Hazardous Waste - RCSA Section 22a-449(c)-102
- Hazardous Waste Determination - 40 CFR 262.11

Best Management Practices

- ★ Dust, sand, grit or other material from sanding of body filler or grinding of parts should be swept or vacuumed at least once per day and immediately prior to floor washing.

- ★ Train employees to use spray equipment with high transfer efficiency.

- ★ Limit the amount of leftover paint and decrease solvent use by using a smaller paint spray gun cup.

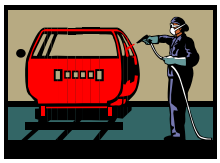
- ★ Used solvent can be reused for initial rinse-out of spray gun. Reuse solvents and thinners by draining the clean product off the top once solids settle out.

- ★ If your facility utilizes an electrostatic eliminator containing radioactive material, ensure personnel are trained in the proper use of this equipment and that the source of radiation does not become exposed. When they are no longer needed, electrostatic eliminators containing radioactive material must either be returned to the manufacturer or properly disposed of in accordance with the manufacturer's directions.

★ Use a commercial car wash if your facility is not equipped with a properly permitted wash bay. See the Shop Wastewater fact sheet for more information.

Pollution Prevention Checklist

✓ Is your staff trained in the use of spray equipment with high transfer efficiency such as HVLP spray guns?
✓ Do you reuse solvents and thinners by draining the clean product off the top?



Did You Know?

Using higher efficiency spray equipment such as HVLP guns can reduce overspray by 25% to 50%.