



Environmental Fact Sheet

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
103 South Main Street
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<http://www.anr.state.vt.us/dec/dec.htm>

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Managing Waste Paint Booth Filters

Using a paint spray booth can help save money and provide better jobs for customers while protecting workers and the environment. Spray booths with exhaust filters collect paint particles thus preventing them from polluting the air or lodging in a worker's lungs. Solvent vapors are directed up the stack away from employees, neighboring buildings, and people.

How Are They Regulated?

No matter which type of exhaust filter you use - wet or dry, fiberglass, paper, styrene, composite or some other type - all types must be evaluated to determine whether or not they are hazardous. Evaluating filters can be done two ways: through "*Knowledge of the Waste*" or *Laboratory Testing* - "Toxicity Characteristic Leaching Procedure" (TCLP).

Knowledge of the Waste - Using "knowledge" means you use only coatings, which contain regulated metals at below limits (see table); and, you have written documentation to show this. Written documentation can include Material Safety Data Sheets (MSDS) or a written statement from the paint manufacturer stating that any metals in the paint are below the limits.

Laboratory Testing - Using the TCLP means you arrange with a testing company capable of performing the TCLP to test a representative sample of your waste paint filters; and, test results show that any metals (see table) or solvents present are below the limits.

| Characteristic of Toxicity Maximum Concentration of Contaminants | |
|---|------------------------------|
| Metal | Maximum Concentration (mg/l) |
| Arsenic | 5.0 |
| Barium | 100.0 |
| Cadmium | 1.0 |
| Chromium | 5.0 |
| Lead | 5.0 |
| Mercury | 0.2 |
| Selenium | 1.0 |
| Silver | 5.0 |

Using either method to determine whether your filters are regulated hazardous waste assumes you are not spraying a "**listed solvent**" into the filters when cleaning spray guns, lines or other equipment. If you spray a listed solvent for cleaning purposes, your paint filters must be managed as a hazardous waste. Commonly used listed solvents include toluene, xylene, acetone, methyl ethyl ketone and methanol or mixtures containing these solvents. If any of these "*listed*" solvents are ingredients in the paint (and not used for cleaning purposes), their use, as part of the paint formulation, will not result in paint wastes (including filters) being designated as hazardous waste.

The last way a filter might be regulated, as hazardous waste is if it exhibits the characteristic of "**ignitability**". To be hazardous for the characteristic of "ignitability", filters would have to be "capable, under standard temperature and pressure of causing fire through friction,

absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently" that a hazard is created. Most modern autobody finishes in use today would not render a filter ignitable under this definition. If used filters are thoroughly dry at the time of replacement, solvents will have either evaporated or become part of the polymerized coating. Not only will such filters be unlikely to exhibit the characteristic of ignitability, but also neither will any of the "toxic" solvents be present above regulatory limits. Laboratory testing is the only way to show that waste filters definitively do not exhibit these characteristics.

☞ **If Filters are Hazardous**, they must be managed in accord with the VT Hazardous Waste Management Regulations applicable to your facility's generator status. If your business is a Conditionally Exempt Generator (CEG), refer to the self-audit checklist in the "Autobody Repair Technician's Guide to VT's Environmental Regulations" (p.11).

☞ **If Filters are Non-Hazardous**, they can be managed as an industrial solid waste. Make sure they are completely dry prior to disposal to minimize the chance of fire. Some dried coatings may give off vapors that can ignite other combustible materials. Minimizing or eliminating the contact between filters and natural fibers, such as paper, will reduce the chance of a fire. Take precautions during severely hot weather. A large quantity of filters mixed with combustible materials in a covered container sitting in the sun on a hot day can create a problem that can be avoided. Prior to transport, contact your waste hauler and the permitted landfill or burner and follow their requirements to ensure safe transport and disposal.

Best Management Practices

To ensure you get maximum performance from your filters, in addition to cost, consider:

Capture Efficiency Durability Lifespan

- ✓ Store filters in a way that will protect them from dust and damage prior to use;
- ✓ Use correct filter for the type of paint, equipment and booth you use;
- ✓ Use correct air volume and velocity;
- ✓ Minimize overspray - adjust equipment to ensure proper fan pattern and operating pressure;
- ✓ Provide training for operators to ensure they are using correct spray techniques.

Paint Booth Stack Design

Paint booth stacks should discharge vertically above the roofline of the building. No horizontal discharges are recommended. The height of the stack discharge must be sufficient to avoid the exhaust being circulated adjacent to the building due to building downwash effects or drawn into nearby building intakes. A height of four feet above the roof peak is an absolute minimum. However, site conditions may warrant a higher stack if buildings are located nearby which are above the discharge. The stack must not be equipped with any device that would impede the upward discharge of the exhaust air (i.e. rain caps). Other techniques may be employed to reduce water and snow into the exhaust system, (i.e. butterfly caps or stack sleeves).

For more information, contact the Environmental Assistance Division at:

EAD Hotline: 800-974-9559 (in-state only) or 802-241-3745 (out-of-state)

E-mail: ead@anrmail.anr.state.vt.us

On the Web: <http://www.anr.state.vt.us/dec/ead/eadhome/default.htm>