

## Surface Coating

Surface coating covers a wide range of categories and emissions. Major surface coating operations include aerospace, auto refinishing, furniture finishing, metal can coating, and paper coating. In YRCAA jurisdiction, the vast majority of surface coating operations (SCO) is auto refinishing by spray coating.

Surface coating materials are primarily organic polymers dissolved in a solvent or suspended in an emulsion. The material may be applied to the product by dipping, by hand application, or by spraying. In the process of "drying", the solvent or emulsion carrier evaporates. The organic polymer is left behind to coat the surface.

In spray coating, the finish material is propelled toward the surface. The intent is that the finish material will hit and stick to the surface. In practice, much of the finish material misses the surface altogether (overspray). The amount of overspray depends largely on the shape and size of the product and on the applicator. Consequently, spray coating has substantially less than 100% transfer efficiency. Transfer efficiency differs with spray-coating technique and equipment.



### Emissions of Concern

Emissions depend on the type of surface coating operation, the application techniques used, and the material used for coating. Regardless of the application technique, all the volatile constituents of the finish are released to the environment. However, the application technique can determine how much finish must be used and the corresponding amount of air emissions per product. Throughout most of history, the solvents and emulsion carriers have been volatile organic compound (VOC) liquids. Most of the compounds comprising these solvents are hazardous air pollutants (HAP).

### Emission Controls

Using lower VOC coatings minimizes emissions. Pollution prevention practices, such as keeping coating and solvent containers closed, combined with improved application techniques, such as airless or high-volume / low-pressure spray guns also minimize VOC and thus, HAP emissions.



## COMPLIANCE ASSISTANCE PROGRAM

### New Source Review (NSR) & Fees

YRCAA requires that a NSR permit application be submitted and approved prior to the construction, installation, establishment, replacement or modification of air contaminant sources, emissions units or air pollution control equipment in YRCAA jurisdiction. This includes equipment associated with stationary or portable devices or any part of such a device that emits or has the potential to emit any air contaminant, including SCO. There is a NSR permit application fee, and an Order of Approval fee, based on the staff time to conduct the review and draft the Order of Approval.

### Annual Registration & Fees

Sources of air contaminants, including SCO, must register annually with YRCAA and pay a fee. YRCAA's Board of Directors reviews fees annually. As a part of the registration program, businesses are required to complete and submit a registration form annually. The annual registration program enables YRCAA to classify sources and maintain an inventory of air contaminants. Information is also used to evaluate air pollution control strategies to attain and maintain National Ambient Air Quality Standards.

### Inspections

Regular inspections of registered sources are conducted to verify compliance with air pollution regulations. When inspecting SCOs, the compliance team will:

- review records;
- determine if any changes have been made to processes, equipment, materials or fuels;
- observe operation and maintenance activities;
- determine if any violations of rules, permits or orders exist; and
- determine if any corrective actions are needed to avoid enforcement.

*If you have already installed or modified a SCO or any equipment or process associated with a SCO, or are planning to in the future, please contact YRCAA. Our staff is available to assist you with the permit and registration process.*

### YRCAA Rules

[YRCAA Regulation 1, Subsection 4.01](#)

### State Rules

[WAC 173-400](#) – General Regulations for Air pollution Sources

[WAC 173-460](#) – Controls for New Sources of Toxic Air Pollutants

### Federal Rules

EPA has rules for control of hazardous air pollutants (HAPs) called maximum achievable control technology (MACT) standards. To determine if your facility, equipment or operation is subject to a MACT standard see the following links:

<http://www.epa.gov/airtoxics/mactfnlalph.html>

<http://www.epa.gov/ttn/atw/area/compilation.html>