



Painting and Coatings Pollution Prevention

Most products require some type of coating such as paint, stain or sealer. Because coatings are widely used, there is potential for environmental benefit and cost savings through pollution prevention (P2).

Source reduction and recycling techniques can reduce hazardous and solid waste, air emissions, raw material and water use. P2 strategies involve surface preparation, coating application and equipment cleaning.

Surface Preparation

Most items require a preparation or cleaning step prior to painting. This step is commonly called pretreatment for new products, and paint stripping for products that need to be reworked. You can reduce the need to oil parts in storage prior to surface prep by having “just-in-time” ordering practices. This means that only the amount needed is on hand at any given time.

Reduce solvent evaporation by installing sink lids, increasing freeboard space, and installing freeboard chillers in solvent vapor degreasing units. Aqueous solutions, mechanical methods, countercurrent washes, and non-caustic paint removers can reduce the amount of waste generated. Alternative solvents are another P2 opportunity, such as citric acid or microbial-based cleaners.

Coating Application

Once parts are ready to be painted, the type of coating material and application method can impact transfer efficiency. Transfer efficiency is the amount of paint solids that adhere to the object being painted, divided by the amount of paint applied or used. High transfer rates save money by reducing the amount of paint wasted, overspray and air emissions. Replace solvent based paint with water based, powder, or high-solids paint. Use paints that have less toxic pigments (some contain metals).

Modify equipment to use High Volume Low Pressure (HVLP) or electrostatic spray technology. Flow coating, roller coating, or dip type coating processes can reduce the amount of waste coatings. A dedicated delivery system can reduce waste created from cleaning. Train paint operators to minimize paint waste/overspray. Avoid overspray by holding the gun level, setting controls appropriately, and maintaining proper gun distance and speed. For small touch up jobs, use smaller than standard (one quart) size paint cups on spray guns. To reduce cleaning waste, when different colors will be applied the same day, schedule light colors first, then dark. Use paint heaters instead of solvent thinners to reduce coating viscosity.

What is Pollution Prevention?

Pollution prevention (P2) is the use of source reduction techniques to reduce risk to public health, safety, welfare and the environment and, as a second preference, the use of environmentally sound recycling to achieve these same goals. P2 addresses all types of waste and environmental releases to the air, water and land.

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Equipment Cleaning

Use distillation/recycling practices so less new solvent is needed. Keep waste streams separate for reuse, recycling, or treatment. Use pop-up level indicators on drums and other bulk receptacles to prevent overfilling. Control your inventory to prevent overuse/underuse of materials.

Don't allow raw materials to become old and useless, creating hazardous wastes. Use a first-in, first-out policy.

Keep non-hazardous materials from becoming contaminated. Label all materials and wastes. Use tight-fitting lids on containers, except when adding or removing material or waste to prevent spills and leaks.

Use enclosed cleaning devices, like a gun washer. Mix paint according to need, and document its use so you only purchase what you need. To save waste from changing colors in paint lines, schedule jobs to maximize color runs.

To clean overspray, instead of using solvents, use spray booth coatings that peel off. Routinely clean paint hooks to prevent paint build-up. Perform preventative maintenance. Keep a spill kit onsite and train employees yearly in spill prevention and response. Use dry cleanup methods such as "scrape and scoop" instead of washing the area down.

P2 Benefits

Implementing some of the P2 strategies in this fact sheet may reduce some of the compliance requirements and the costs of complying with environmental rules and regulations. Environmental benefits include reducing VOC emissions and hazardous waste.

Where to Get More Help

Contact the Office of Compliance Assistance and Pollution Prevention at (800) 329-7518 for more information or check the Division of Environmental and Financial Assistance website at epa.ohio.gov/defa/. For information about ways that other Ohio companies may be implementing pollution prevention, and possible ideas for your facility, please refer to our [*Encouraging Environmental Excellence \(E3\) web page*](#).