

Pollution Prevention (P2) for the Aviation Sector



This resource summary provides basic tips to reduce pollution in the aviation industry related to painting, solvent waste and inventory control.

Reduce Waste Related to Painting

Consider less toxic paints and coating substitutes. Find chrome-free primers and paints with low Volatile Organic Compounds (VOCs).¹ Use electrostatic painting or coating to reduce paint waste volumes. Mix enough paint for the specific project as needed and size the paint cup on spray guns appropriately.²

Conduct dry stripping instead of wet stripping. If wet stripping is necessary, consider investing in an on-site wastewater treatment system.

Follow proper wastewater regulations. Properly dispose of dried scraps/stripping solution to remain in compliance with hazardous waste regulations. Consider particle blasting instead of using chemicals. Particle blasting is using abrasive materials, typically glass or plastic beads, in a low pressure hose to wear away paint, producing an etched surface for paint adhesion. Reuse particle blasting beads to their fullest extent.

Train employees on the proper use, waste identification, handling and disposal of paint and paint-related waste.

Solvent Waste

Reduce hazardous waste generation by laundering solvent contaminated wipes. Laundering reusable wipes allows you to reduce your hazardous waste volumes (see EPA's *Final Rule: 2013 Conditional Exclusions From Solid Waste Hazardous Waste for Solvent-Contaminated Wipes*³). The EPA rule reduces overall compliance burden and costs for the industry. Additionally, laundering wipes allows companies to conditionally exclude those wipes from solid and hazardous waste rules.

Whenever possible, avoid single use wipes for removing or applying solvents and apply the EPA final rule for solvent contaminated wipes.

Other tips to consider when using solvents:

- Consider an onsite distillation process to reuse solvents and reduce hazardous waste disposal.
- Purchase solvent alternatives with higher flash points greater than 140° F (the ignitability limit that defines a waste as hazardous).
- Avoid mixing solvent waste with non-hazardous waste to prevent increasing disposal volumes.
- Reduce air emissions by maintaining solvent containers closed.

Inventory Control

Aviation facilities can inventory existing supplies, purchase products as needed based on inventory and projects.

Aviation facilities can also use the First In-First Out (FIFO) process to reduce the accumulation of expired paint. Excess material that is still used by the site and has not expired can be used by other departments or sister companies. For excess material that cannot be used by the facility, find an outlet such as donating to colleges or trade schools specializing in aircraft maintenance. Avoid the expiration of materials and chemicals by keeping detailed records of the shelf life and the amount of material that is on-site versus procurement and ordering practices.

Other Ways to Reduce Pollution

Reduce your hazardous waste generation by recycling waste aerosol cans instead of disposing of them, making sure to puncture each can before recycling. This allows the facility to reduce hazardous waste volumes while promoting sustainability. Research chemicals used in the process and determine if more sustainable options can be used. EPA's Safer Choice Program offers safer alternatives for the aviation industry including aircraft cleaning products ⁴.

Tools to Measure P2

EPA P2 Calculators can help you assess cost savings and greenhouse gas emission reductions.⁵ Also check out the various tools the American Chemical Society has to offer for green chemistry.⁶



References

- ¹ [OSHA Fact Sheet. Controlling Exposure to Hexavalent Chromium in Aerospace and Air Transport Painting.](#)
- ² [Office of Compliance Assistance and Pollution Prevention. Paintings and Coatings Pollution Prevention.](#)
- ³ [EPA. Final Rule 2013 Conditional Exclusions from Solid Waste and Hazardous Waste for Solvent-Contaminated Wipes](#)
- ⁴ [EPA Safer Choice Program.](#)
- ⁵ [EPA. P2 Calculators.](#)
- ⁶ [ACS. Tools for Green Chemistry & Engineering.](#)

Additional Resources

[Department of Toxic Substances Control. Pollution Prevention and Compliance Opportunities Checklist.](#)

[Institute for Research and Technical Assistance. Safer Alternative Thinners, Cleanup Materials, Coatings and Sanding Methods in the Autobody Industry.](#)

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