

Aerospace Manufacturing and Rework Industry MACT

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On September 1, 1995, the U.S. Environmental Protection Agency (USEPA) issued a Maximum Achievable Control Technology (MACT) standard for hazardous air pollutant emissions from the aerospace manufacturing and rework industry. This rule is designed to reduce emissions of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) by 123,000 tons annually.

Hazardous air pollutants are substances known or suspected to cause cancer or other serious health effects. An example is chromium, a suspected carcinogen. VOCs contribute to ground-level ozone, or smog.

Large volumes of methylene chloride, a pollutant strongly suspected to cause cancer, are commonly used to remove paint from the exterior of aerospace vehicles. The aerospace MACT standard will completely eliminate methylene chloride and other toxics from paint removal operations, while providing a variety of options for meeting this requirement.

Does this Federal Standard Affect My Business?

Every aerospace manufacturing and rework facility classified as a major source will be required to comply with this standard. A business is considered a major source if it has the potential to emit 10 tons/year of any single hazardous air pollutant or 25 tons/year of any combination of hazardous air pollutants.

How Does My Business Comply with this Standard?

The federal standard affects several types of aerospace industry operations, including cleaning, primers and topcoats, depainting, chemical milling maskant, and monitoring operations. Each is explained below.

By substituting certain non-polluting processes or materials, some businesses may avoid being subject to this MACT standard altogether. These practices include:

1. Cleaning

- Hand-wipe and flush cleaning operations require the use of solvents with a vapor pressure less than 45 mm Hg at 20°C (68°F) or cleaning agents on the list of approved solvents identified in this rule.
- Store all cleaning agents and solvent-laden rags in closed containers immediately after use.
- Establish a system to reduce spills when handling or transferring cleaning agents.

2. Primers and Topcoats

- Limit VOC and organic HAP emissions in primers to:
 - 2.9 pounds per gallon of primer, excluding water, as applied; or
 - 4.5 pounds per gallon of primer, excluding water, as applied, for general aviation rework; or
 - 5.4 pounds per gallon of exterior primer, excluding water, as applied, to large commercial aircraft components or fully assembled, large commercial aircraft at existing affected sources that produce fully assembled, large commercial aircraft;**and**
- Limit VOC and organic HAP emissions in topcoats to:
 - 3.5 pounds per gallon of topcoat or self-priming topcoat, excluding water, as applied; or

- 4.5 pounds per gallon of topcoat or self-priming topcoat, excluding water, as applied, for general aviation rework.
- Use one of the following application techniques:
 - flow coat
 - dip coat
 - roll coat
 - electrostatic spray
 - brush coat
 - HVLP spray guns
- Topcoats and primers containing inorganic HAPs such as chromium, cadmium, or selenium must be applied in a booth or hangar with an air flow that blows fumes into one or more exhaust vents. Vents must be equipped with either dry particulate filters or a water wash system.

3. Depainting

- Media blasting equipment, high intensity ultra- violet light blasting, or any other non-chemical depainting techniques or chemical strippers that do not contain HAPs are allowed.
- Depending on aircraft type, 26 to 50 gallons of stripper containing HAPs can be used for spot stripping or decal removal.

4. Chemical Milling Maskant

- Protective coatings are limited to 1.3 pounds of HAPs or VOCs per gallon, excluding water.

5. Monitoring

- Enclosed spray gun cleaners must be inspected visually at least once per month for leaks. All leaks must be repaired within 15 days.
- Temperatures in incinerators used to control primer, topcoat, and chemical milling maskant emissions must be monitored using a continuous recorder.
- Depainting operations and coating applications with inorganic HAPs (chromium and cadmium) must continuously monitor the pressure drop across the filter.

What are the Reporting and Record Keeping Requirements?

If your facility is a major source affected by this standard, then you have a Title V Air Pollution Permit issued by the Department of Natural Resources (DNR). You may have been issued a Federally Enforceable Synthetic Minor Permit (FESOP) to keep your emissions below the thresholds for a major source. Either permit will detail all the reporting and record keeping requirements you must follow.

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