

July 31, 1995

FACT SHEET

**FINAL AIR TOXICS RULE FOR THE AEROSPACE MANUFACTURING
AND REWORK INDUSTRY**

TODAY'S ACTION...

- ◆ The Environmental Protection Agency (EPA) is today issuing a final rule to reduce air toxics emissions from the aerospace manufacturing and rework industry.
- ◆ Today's action demonstrates EPA's commitment to making pollution prevention an integral part of regulatory actions whenever possible. Most of the control requirements outlined in the final rule are based on pollution prevention options instead of end of pipe controls.
- ◆ EPA's final regulation was developed through extensive negotiations with industry representatives, environmental groups, and State and local agencies.
- ◆ Aerospace manufacturing and rework facilities produce or repair aerospace vehicles or vehicle parts, such as airplanes, helicopters, space vehicles, and missiles.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

- ◆ EPA's final rule will reduce emissions of air toxics, including chromium--a pollutant strongly suspected of causing lung cancer, and volatile organic compounds (VOCs) by 123,000 tons annually. This represents a 60 percent reduction from current levels. Air toxics are those pollutants known or suspected of causing cancer or other serious health effects (e.g. reproductive effects and birth defects). VOCs contribute significantly to ground-level ozone, or smog.
- ◆ Historically, large volumes of methylene chloride, a pollutant strongly suspected of causing cancer, have been used to remove paint from the exterior of aerospace vehicles. EPA's final rule will require facilities to completely eliminate emissions of methylene chloride and other air toxics from depainting operations, while providing a variety of options for meeting this

requirement.

HOW DOES EPA'S RULE PROVIDE FLEXIBILITY TO INDUSTRY?

- ◆ EPA's final rule provides industry with a variety of options for meeting each of the control requirements.

- ◆ The pollution prevention-based compliance options in EPA's final rule are likely to yield substantial cost savings to industry sources.

- ◆ EPA's final rule contains a market-based provision, "emissions averaging," that would allow facilities flexibility to choose certain emissions points to control in order to achieve the required emissions reductions in the most cost effective manner possible. In some situations, facilities may find it more cost effective to overcontrol certain emissions points and undercontrol others, so that the overall result would be greater emissions reductions at lesser control costs. The final rule spells out how facilities may use emissions averaging and which emissions points may be included.

BACKGROUND

- ◆ Under the Clean Air Act Amendments of 1990, EPA is required to regulate emissions of 189 listed toxic air pollutants. On July 16, 1992, EPA published a list of source categories that emit one or more of these air toxics. For listed categories of "major" sources (those that emit 10 tons annually or more of a listed pollutant or 25 tons or more of a combination of pollutants), the Act requires EPA to develop standards that will require the application of maximum achievable control technology (MACT).

- ◆ In its July 16, 1992, published list of industry groups to be regulated, EPA identified aerospace manufacturing and rework operations as a major source of air toxics.

WHO WILL BE AFFECTED BY THE FINAL RULE?

- ◆ There are approximately 2,800 aerospace manufacturing facilities nationwide that are major sources of air toxics, and are therefore affected by the regulation.

WHAT DOES THE FINAL RULE REQUIRE?

- ◆ EPA's final rule will require controls on processes within an aerospace manufacturing and rework facility that release air toxics, many of which are also VOCs; these processes include cleaning operations, primer operations, topcoat operations, repainting operations, and chemical milling maskant operations.
- ◆ The monitoring, recordkeeping, and reporting requirements are outlined in the final rule.

HOW MUCH WILL THE RULE COST?

- ◆ The nationwide annual cost of the regulation, including costs incurred for monitoring, recordkeeping, and reporting, is approximately \$21 million. The maximum nationwide capital cost, assuming that all affected facilities chose abatement options over the pollution prevention alternatives, would be approximately \$608 million. EPA anticipates that no more than 5 percent of affected facilities will choose abatement as a means of compliance. Most of the control requirements in the final rule offer pollution prevention options, which could, therefore, provide cost savings to affected industry sources.

FOR MORE INFORMATION...

Anyone with a computer and a modem can download the rule from the Clean Air Act Amendments bulletin board (look under "Recently Signed Rules") of EPA's electronic Technology Transfer Network (TTN) by calling (919) 541-5742. For further information about how to access the board, call (919) 541-5384. For further information about the rule, contact Vickie Boothe at (919) 541-0164.

TECHNICAL ADDENDUM TO AEROSPACE FACT SHEET

WHAT DOES EPA'S FINAL RULE REQUIRE?

All aerospace manufacturing and rework facilities classified as a major source will be required to meet the following control requirements for each of the processes noted below.

CLEANING

There are several types of operations used to clean aerospace vehicles or vehicle parts.

- ◆ Hand-wipe and flush cleaning operations will require the use of **cleaning solvents with a vapor pressure of less than 45mm Hg** or cleaning agents included on the list of approved solvents identified in the final rule. Incentives, such as reduced recordkeeping requirements, serve to encourage the use of cleaning agents included on the approved list.
- ◆ Facilities will be required to use closed containers for storing cleaning agents and solvent-laden rags will be

required to be placed in bags or other closed containers immediately after use. The bags or containers will be required to contain the vapors of the cleaning agent.

- ◆ Owners or operators will be required to implement handling and transfer procedures to minimize spills during filling and transferring of the cleaning agent to or from enclosed systems, vats, waste containers, and other cleaning operations equipment that hold or store fresh or used cleaning agents.
- ◆ In addition to these general cleaning requirements, the regulation will require specific work practices during the cleaning of spray guns and coating lines and during the flush cleaning of parts and components.

PRIMERS AND TOPCOATS

Primers are coatings applied to aerospace vehicles or parts to protect the surface. Topcoats are also coatings, but are applied on top of the primers for functional or decorative purposes.

- ◆ Emissions from primers will be limited to 2.9 pounds of hazardous air pollutants per gallon of primer (not including water) during application; and emissions from topcoats will be limited to 3.5 pounds of hazardous air pollutants per gallon of topcoat (not including water) during application. VOC emissions will be limited to the same levels (not including water and exempt solvents). These emission reductions can be achieved by using low solvent coatings, abatement equipment or emissions averaging between like categories of coating (i.e., high HAP topcoats with low HAP topcoats).
- ◆ An equipment standard for the application of primers and topcoats will require the use of one of the following application techniques, except for certain specified limited exceptions: flow coat, roll coat, brush coat, dip coat, electrostatic attraction, or high volume low pressure (HVLP) spray guns. All application techniques will be required to operate properly and to be maintained at all times.
- ◆ To reduce emissions of inorganic hazardous air pollutants (mainly chromium and cadmium), the final rule will require that topcoats and primers be applied in a booth or hangar in which the airflow is directed across the

part or assembly being coated. Airflow will then be exhausted through one or more outlets equipped with either dry particulate filters or a waterwash system to remove the hexavalent chromium, cadmium, and selenium particulates before airflow is finally released into the atmosphere.

DEPAINTING

Large volumes of methylene chloride have traditionally been used to remove paint from the exterior of aerospace vehicles, including the fuselage, wings, horizontal and vertical stabilizers of the aircraft or the outer casing and stabilizers of missiles and rockets. Under EPA's final rule,

- ◆ Zero hazardous air pollutant emissions will be required for depainting processes, which could be achieved through either of the following options: (1) media blasting equipment, high intensity ultra-violet light blasting, or any other non-chemical depainting technique or (2) chemical strippers that do not contain hazardous air pollutants.
- ◆ The use of 26 to 50 gallons (depending on the type of the aircraft) of chemical stripper containing hazardous air pollutants per aircraft will be allowed, however, for spot stripping and decal removal.

CHEMICAL MILLING MASKANT OPERATIONS

Chemical milling maskant operations use spray equipment or dip tanks to apply protective coatings to surface areas of aerospace vehicles or parts.

- ◆ Emissions from chemical milling maskant operations will be limited to 1.3 pounds of hazardous air pollutants per gallon of maskant (not including water) during application. VOC emissions will be limited to the same levels (not including water and exempt solvents).
- ◆ Options for complying with the standard include: (1) use only maskants that individually comply with the hazardous air pollutant limit; (2) use only maskants for which the weighted average hazardous air pollutant content of all the maskants used in the chemical milling maskant operation complies with the hazardous air pollutant limit; (3) use a control device to reduce hazardous air pollutant emissions such that the overall emissions from

a chemical milling maskant operation are equivalent to the emissions that would be achieved by using compliant maskants.

HANDLING AND STORAGE OF WASTE

- ◆ EPA's final rule requires that the handling and transfer of waste to or from containers, tanks, vats, vessels, or piping systems be conducted in such a manner that minimizes spills. In addition, all waste that contains hazardous air pollutants must be stored in closed containers.

MONITORING

- ◆ Cleaning operations: Enclosed spray gun cleaners will be visually inspected at least once per month for leaks. Any leak must be repaired within 14 days.
- ◆ Primer, topcoat, and chemical milling maskant application operations controlled with incinerators: The temperature of incinerators will be monitored using a continuous recorder.
- ◆ Depainting operations and the application of coatings with inorganic HAPs: For inorganic hazardous air pollutant emissions (e.g. metals such as chromium and cadmium), the pressure drop across the filter will be monitored continuously.

REPORTING

- ◆ Required reports include an initial notification of pertinent information about the emission sources and a report or notification of compliance status, which provides a detailed description of how the facility will comply with the regulation.
- ◆ Semiannual reports must document all noncompliance situations and/or exceedances, as well as process changes. Annual reports will document periods of compliance with all applicable standards. Other reports are identical to the requirements outlined in the EPA's air toxics General Provisions rule, which was promulgated in February 1994.