

8/21/98

FACT SHEET

PROPOSED GENERIC AIR TOXIC REQUIREMENTS FOR ACETAL RESIN PRODUCTION, ACRYLIC AND MODACRYLIC FIBER PRODUCTION, HYDROGEN FLUORIDE PRODUCTION, AND POLYCARBONATE PRODUCTION

TODAY'S ACTION

- ! Under authority of the Clean Air Act, the Environmental Protection Agency (EPA) is proposing requirements that would reduce emissions of air toxics from four different manufacturing processes: acetal resin, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production. Air toxics, also known as hazardous air pollutants, are those pollutants known or suspected of causing cancer and/or other serious health effects.

- ! EPA is also proposing a generic air toxics rule to be used by EPA to establish national emission requirements for air toxics under the Clean Air Act for select small source categories consisting of five or fewer sources (i.e., facilities). As part of the generic air toxics rule, EPA is proposing an alternative method for establishing regulatory requirements for appropriate small categories by referring to previous air toxics requirements that have been established for similar sources.

- ! EPA plans to develop additional regulations under the generic air toxics program in the future.

- ! After analyzing and responding to comments, EPA intends to issue the final requirements for the four source categories (acetal resin, acrylic and modacrylic fiber, hydrogen fluoride, and polycarbonate production) under the generic air toxic rule by May 15, 1999.

- ! In the development of today's proposed requirements, EPA worked in partnership with major stakeholders including industry representatives and representatives of those States with affected production facilities.

WHAT ARE THE PRODUCTION PROCESSES AFFECTED BY THE PROPOSAL?

Acetal Resin Production

- ! Acetal resins are thermoplastics used in industrial applications, plumbing and irrigation, automotive plastic parts, consumer articles, appliances, and other plastic parts. The primary pollutants emitted from acetal resin production are formaldehyde and methanol.

Acrylic And Modacrylic Fiber Production

- ! Acrylic and modacrylic fibers are synthetic fibers composed of acrylonitrile and lesser fractions of copolymers. These fibers are used in two main industries; as a substitute for wool fibers in the textile industry manufacturing carpet, socks, sweaters, etc.; and as a carbon fiber precursor for the sporting goods industry (tennis rackets, golf clubs, etc.) and the aviation industry.

Hydrogen Fluoride Production

- ! Hydrogen fluoride production is the production and recovery of hydrogen fluoride by reacting calcium fluoride with sulfuric acid. The proposed rule does not cover processes that produce gaseous hydrogen fluoride for direct reaction with hydrated aluminum to form aluminum fluoride because hydrogen fluoride is not recovered as an intermediate or final product prior to reacting with the hydrated aluminum. Hydrogen fluoride is used in the production of chlorofluorocarbons and hydrochlorofluorocarbons, as well as in the hydrogen fluoride alkylation process at refineries and the production of aluminum fluoride.

Polycarbonate Production

- ! Polycarbonates are produced mainly by reacting bisphenol with phosgene. Methylene chloride is the solvent typically used in the process. Polycarbonates have a variety of uses, including compact disks, automotive parts, and electrical components.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

Acetal Resin Production

- ! There are only three facilities in the nation that manufacture acetal resins. All three facilities are already well controlled. This action is designed to ensure continued well controlled operations and consequently is not expected to significantly reduce air toxic emissions from the manufacture of acetal resins.

Acrylic And Modacrylic Fiber Production

- ! EPA's proposed requirements would reduce air toxic emissions from the production of acrylic and modacrylic fiber by approximately 100 tons annually. From the three affected facilities, this reduction represents a 75 percent reduction from current levels. Additionally, acrylonitrile is a "volatile organic compound," which contributes to the formation of ground-level ozone, the primary constituent of smog. Therefore, the proposed requirements would also help reduce ground-level ozone. Other listed air toxics such as dimethylformamide, cyanide compounds, vinyl chloride, vinyl bromide, vinylidene chloride, or vinyl acetate may

also be present in small quantities and would be reduced with the proposed requirements.

- ! Acute (short-term) exposure to acrylonitrile can cause low-grade anemia with elevated white blood cell counts, bluish skin color (cyanosis), kidney irritation (nephritis), and severe burns to the skin from dermal exposure. Chronic exposure to acrylonitrile can result in headaches, fatigue, nausea, and muscle weakness. Acrylonitrile has also been classified as a probable human carcinogen.

Hydrogen Fluoride Production

- ! Under current operating conditions in the industry, the EPA's proposed standards would only apply to one facility which already has control requirements in place that reflect the level of control proposed for this source category. A second facility that is currently producing hydrogen fluoride has limitations on emissions that would keep it from being subject to air toxics requirements in this proposal, and the third facility with hydrogen fluoride production capacity is temporarily shutdown.

Polycarbonate Production

- ! There are five facilities operated by three companies that would be affected by the proposed rule. Most of the producers of polycarbonates have already installed emission control or recovery equipment. Today's proposed rule would ensure that the emissions reductions of a number of air toxics would be maintained. These include methylene chloride, ethyl chloride, and phosgene.

BACKGROUND

- ! Under the Clean Air Act, EPA is required to regulate sources of 188 listed air toxics. (Note that this list originally contained 189 pollutants, but EPA has subsequently removed the chemical caprolactum from the list.) On July 16, 1992, EPA published a list of industry groups (known as source categories) that emit one or more of these air toxics. For listed categories of "major" sources (those that emit 10 tons/year or more of a listed pollutant or 25 tons/year or more of a combination of a listed pollutant), the Clean Air Act requires EPA to develop standards that require the application of maximum achievable control technology (MACT) to control emissions.
- ! For industries with a small number of more sources, EPA believes that gathering detailed data and performing air toxic emission control averaging may not always be necessary (and is sometimes impractical) as a basis for determining requirements. Therefore, EPA is proposing a generic air toxic alternative MACT determination approach that provides a basis for broadly specifying requirements for select source categories with a limited population of sources.

WHAT DOES THE EPA'S PROPOSED RULE REQUIRE FROM EACH OF THESE PRODUCTION PROCESSES?

- ! The requirements proposed for each of these four production processes are similar to those required for similar emission parts and types.

Acetal Resin Production

- ! EPA's proposed requirements would establish control efficiency requirements for the following phases of the manufacturing process: storage vessels, process vents, equipment leaks, and wastewater treatment systems.

Acrylic And Modacrylic Fiber Production

- ! The production of acrylic and modacrylic fiber involves polymerization reaction processes, wet or dry solvent spinning, solvent recovery, and fiber processing (such as washing, stretching, crimping, drying). EPA's proposed requirements would establish either emission limits or control efficiency requirements for the following phases of the manufacturing process: storage vessels, process vents, equipment leaks, and wastewater treatment systems.

Hydrogen Fluoride Production

- ! The production of hydrogen fluoride involves a reaction of calcium fluoride with sulfuric acid to produce hydrogen fluoride vapors, condensation, and distillation of the condensate for purification. EPA's proposed requirements would establish control efficiency requirements for the following sources of hydrogen fluoride emissions at the production facilities: process vents on recovery and refining equipment, storage vessels, bulk loading of tank trucks and tank rail cars, leaks from handling equipment, and reaction kiln seal leaks.

Polycarbonate Production

- ! The proposed rule would establish requirements for the following emissions points at affected sources: storage vessels, process vents, equipment leaks, and wastewater systems.

WHAT OTHER GENERIC REQUIREMENTS IS EPA PROPOSING?

- ! EPA is also proposing generic emission control requirements for equipment leaks, storage vessels, closed-vent systems, control devices, and recovery devices. These general requirement sections have been established so that the generic air toxics rule and other rules can reference a common set of design, operating, testing, inspection, monitoring, repair, record keeping and reporting requirements

for emissions control.

HOW MUCH WOULD THE PROPOSED RULE COST?

- ! The estimated combined cost for the 15 affected facilities within the four industries is approximately \$750,000 per year.

FOR FURTHER INFORMATION

- ! Interested parties can download the proposal from EPA's web site on the Internet under "recent actions" at the following address: (<http://www.epa.gov/ttn/oarpg>). For further information about the proposed requirements contact the following persons at EPA's Office of Air Quality Planning and Standards: for the acetal resins source category, contact Mr. John M. Schaefer at (919) 541-0296; for the acrylic and modacrylic fiber source category, contact Mr. Anthony P. Wayne at (919) 541-5439; for the hydrogen fluoride source category, contact Mr. Rick Colyer at (919) 541-5262; for the polycarbonate source category, contact Mr. Mark Morris at (919) 541-5416.
- ! EPA's Office of Air and Radiation's homepage on the Internet contains a wide range of information on the air toxics program, as well as many other air pollution programs and issues. The Office of Air and Radiation's home page address is: (<http://www.epa.gov/oar/>).