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FACT SHEET

PROPOSED ADDITION OF TETRAHYDROBENZALDEHYDE AND CROTONALDEHYDE TO THE LIST OF HON AFFECTED CHEMICALS

TODAY'S ACTION

- ◆ The Environmental Protection Agency (EPA) is issuing a proposed regulation to add the production of Tetrahydrobenzaldehyde and Crotonaldehyde to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Synthetic Organic Chemical Manufacturing Industry. Hazardous Air Pollutants (HAPs), also referred to as air toxics, are those pollutants that are either known or suspected to cause cancer or other serious health effects.
- ◆ Tetrahydrobenzaldehyde is an intermediate chemical used in the manufacture of paint additives and in itself is not a hazardous air pollutant. However, butadiene and acrolein are hazardous air pollutants and both are used in the production of tetrahydrobenzaldehyde.
- ◆ Crotonaldehyde is produced from aldol. Aldol is unstable and converts to crotonaldehyde and acetaldehyde. Acetaldehyde is a hazardous air pollutant, and is emitted during the production of crotonaldehyde.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

- ◆ The proposed regulation is not expected to significantly reduce emissions of to the air from tetrahydrobenzaldehyde or crotonaldehyde. There is one facility in the nation that manufactures tetrahydrobenzaldehyde and one facility that manufactures crotonaldehyde. Both facilities are already very well controlled. This action is designed to ensure that consistent controls efforts continue.

WHAT IS EPA'S COMMON SENSE INITIATIVE?

- ◆ Launched in 1994 by Administrator Carol Browner, EPA's "Common Sense" Initiative involves a comprehensive examination of six industrial sectors. Through this initiative, EPA works with selected industries, environmental and public interest groups, State regulators, and other stakeholders to find ways to improve the environment while reducing the economic impact of its programs. The common sense initiative focuses on promoting pollution prevention, streamlining and improving the development of regulations as well as record keeping and reporting.

HOW IS THE PROPOSED RULE RELATED TO EPA'S "COMMON SENSE" INITIATIVE?

- ◆ Both the tetrahydrobenzaldehyde process and crotonaldehyde process have similar emissions types and controls to other pollutants in the Hazardous Organic NESHAP (HON) category. EPA was not aware of these similarities at the time it issued the HON rule, or it would have included tetrahydrobenzaldehyde and crotonaldehyde in the list of chemicals in its initial HON rulemaking. In addition, the facilities that manufacture tetrahydrobenzaldehyde and crotonaldehyde have several process units at the same location that are already regulated under EPA's HON rule. Therefore, EPA believes it will be easy for the facility to incorporate the additional requirements.

BACKGROUND

- ◆ Under the Clean Air Act Amendments of 1990, EPA is required to regulate emissions of 188 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 have the potential to emit 10 tons/year or more of a listed pollutant or 25 tons/year 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).
- ◆ EPA's "source category" list included major sources producing butadiene dimers. The butadiene dimers source category included tetrahydrobenzaldehyde production as a distinct subcategory. However, EPA incorrectly identified butadiene dimers as a product when in fact it is a waste product. Therefore, EPA changed the name to tetrahydrobenzaldehyde production to identify the product instead of the waste product on the source category list. This change occurred on June 4, 1996.
- ◆ Tetrahydrobenzaldehyde is an organic chemical that is used as an intermediate chemical in the production of paint additives. The production process, emission characteristics, and control techniques are similar to other processes regulated by the HON.
- ◆ Crotonaldehyde is an organic chemical that has similar emission characteristics, and control techniques to other processes regulated by the HON.
- ◆ The HON is one of the most sweeping regulations issued under the Clean Air Act Amendments of 1990. The HON will reduce emissions of organic hazardous air pollutants from chemical manufacturing processes in the Synthetic Organic Chemical Manufacturing Industry (SOCMI) and from several non-SOCMI processes as well. EPA estimates that under the HON, hazardous air pollutant emission reductions will amount to 460,000 megagrams/year, and volatile organic compound emission reductions will amount to 950,000 megagrams/year. These reductions are equivalent to taking about 38 million vehicles off the road.

WHO WILL BE AFFECTED BY THE PROPOSED RULE?

- ◆ One facility in the nation manufactures tetrahydrobenzaldehyde and one facility manufactures Crotonaldehyde. The tetrahydrobenzaldehyde is located in Hahnville, Louisiana and is owned and operated by Union Carbide. The crotonaldehyde facility is located in Kingsport, TN and is owned and operated by Tennessee Eastman.

WHAT DOES THE PROPOSED STANDARD REQUIRE?

- ◆ The proposed rule requires manufacturers of tetrahydrobenzaldehyde and crotonaldehyde to comply with the provisions of the HON rule.

COMPLIANCE DETERMINATIONS

- ◆ Once this standard is issued in final form, facilities have one year to comply with the equipment leaks provisions and three years to comply with the other provisions of the regulation. Any new facility would have to comply with the final regulation upon startup.

MONITORING

- ◆ The monitoring requirements are the same as those required for all other synthetic organic chemical manufactures regulated under EPA's HON rule.

RECORD KEEPING AND REPORTING

- ◆ EPA would require all facilities to comply with the record keeping requirements of the HON and the applicable provisions of EPA's air toxics General Provisions rule as cited in the HON.
- ◆ The HON rule includes the following reporting requirements: The facility must notify EPA of performance tests and compliance status. The facility must also provide EPA reports on performance tests, startup, shutdown, and malfunctions. They must also produce a semiannual summary report.

HOW DOES THE PROPOSED RULE PROVIDE FLEXIBILITY TO INDUSTRY?

- ◆ The proposed rule would allow the affected industry to take advantage of the flexibility provisions in the HON. For example, the industry would be able to take advantage of the alternative batch compliance and the equipment leaks provisions in EPA's HON rule. This would be convenient for the industry as they already use a procedure similar to the alternative batch compliance and would allow the industry to use pressure testing instead or the usual leak detection monitoring which is more labor intensive.

HOW MUCH WILL THE PROPOSED RULE COST?

- ◆ This proposed rule would not require either of the two affected facilities to install additional controls and would only add a small additional cost to the record keeping and reporting cost for each plant site. Therefore, the impact on the facilities is projected to be negligible.

FOR FURTHER INFORMATION

- ◆ Interested parties can download the rule from EPA's web site on the Internet under recently signed rules at the following address: (<http://www.epa.gov/ttn/oarpg/rules.html>). For further information about the proposed rule, call John Schaefer at (919) 541-0296.
- ◆ 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/>).