

Fact Sheet

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FINAL AIR TOXICS RULE FOR STEEL PICKLING - HCl PROCESS FACILITIES

AND HYDROCHLORIC ACID REGENERATION PLANTS

TODAY'S ACTION...

The Environmental Protection Agency (EPA) is issuing a final rule to reduce emissions of toxic air pollutants from sources in steel pickling facilities. Air toxics are those pollutants known or suspected to cause cancer or other serious health effects.

Pickling is a process in which an acid solution is used to remove oxide scale from steel strip, rod, wire, tubing, and discrete shapes. Oxide scale forms on the surface of the steel when steel cools from a molten state. The steel pickling facilities that are affected by this rule use a solution of hydrochloric acid (HCl) to remove the oxide scale.

The EPA developed today's rule with the involvement of industry representatives, state and local agencies, and the EPA's Office of Small and Disadvantaged Business Utilization.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS OF THIS ACTION?

The EPA's rule will reduce emissions of two toxic air pollutants: hydrochloric acid and chlorine. Hydrochloric acid is emitted from processing tanks used in continuous and batch pickling lines, acid regeneration plants, and storage vessels containing virgin or regenerated acid. Chlorine is emitted from acid regeneration plants.

Chronic exposure to hydrochloric acid has been reported to cause gastritis, chronic bronchitis, dermatitis, and photosensitization. Acute exposure to high levels of chlorine in humans may result in chest pain, vomiting, toxic pneumonitis, pulmonary edema, and death. At lower levels, chlorine is a potent irritant to the eyes, the upper respiratory tract, and lungs.

The EPA's rule will reduce emissions of hydrochloric acid by approximately 2,500 standard tons per year, an emission reduction of 76 percent. The rule will also reduce emissions of chlorine by approximately 8.2 tons per year, a reduction of 30 percent.

By reducing emissions of hydrochloric acid and chlorine, EPA's rule will also reduce occupational exposures as well as corrosive effects on surrounding structures and objects such as monuments and statues.

Additionally, the rule will further improve air quality by reducing particulate matter emissions because control technology installed at steel pickling facilities to reduce air toxics emissions will also address particulate emissions.

BACKGROUND

Under the Clean Air Act Amendments of 1990, EPA is required to regulate emissions of 188 listed toxic air pollutants. (Note that this list originally referenced 189 pollutants, but EPA has subsequently removed caprolactam from the list.) On July 16, 1992, EPA published a list of industrial 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 pollutants), the Clean Air Act requires EPA to develop standards that require the application of stringent air pollution reduction measures known as maximum achievable control technology (MACT).

The EPA's published list of industry groups (known as "source categories") to be regulated includes major sources that pickle steel using the hydrochloric acid process.

WHO WILL BE AFFECTED BY EPA'S RULE?

This rule applies to all facilities that pickle steel using hydrochloric acid or regenerate hydrochloric acid and are major sources or are part of a facility that is a major source. The EPA estimates that 62 of the 80 steel pickling facilities using hydrochloric acid and all 8 acid regeneration plants currently in operation, six of which are collocated with pickling facilities, are affected by this rule.

This regulation does not apply to any pickling line that uses an acid other than hydrochloric acid or an acid solution containing less than 6 percent HCl or at a temperature less than 100 °F.

The EPA assessed the impact of the rule on small businesses and found only three companies in the industry employing fewer than 100 people. Two of these businesses already comply, or appear to have the equipment in place that will allow them to comply, with today's action, and EPA projects that the other facility will not be subject to the regulation.

Existing plants have up to two years from the effective date of the final rule to comply with its requirements. If necessary, the owner or operator of an affected facility may request that EPA (or the applicable regulatory authority in a State with an approved permit program) grant one additional year if necessary to install controls.

WHAT DOES EPA'S RULE REQUIRE?

Emissions of air toxics can occur at several points in the steel pickling and acid regeneration processes. This rulemaking establishes limits for hydrochloric acid emissions from continuous and batch pickling lines and acid regeneration units and limits for chlorine emissions from acid regeneration units. Also, operational and equipment standards are established for stationary acid storage vessels.

The monitoring, recordkeeping, and reporting requirements outlined in the rule are similar to those required for other EPA air toxics regulations. For example, the rule requires facilities to demonstrate compliance with the emission standards by monitoring their control devices and performing annual emissions testing.

The EPA's rule establishes limitations for hydrochloric acid and chlorine emissions and offers flexibility to the industry by providing cost-effective options for both emissions control and monitoring.

HOW MUCH WILL EPA'S RULE COST?

Most of the facilities subject to this rule will be required to reduce emissions, but a majority already have air pollution control devices in place that, after equipment modifications or changes in operating or maintenance practices, can possibly help in complying with today's requirements. The EPA projects that a minority of facilities will be required to install new controls.

In total, the EPA estimates the capital cost of the final rule for all affected facilities to be about \$20

million (approximately \$240,000 per facility).

The EPA estimates the total annual costs of the final rule for all affected facilities to be about \$4.9 million per year (approximately \$57,000 per facility).

The EPA estimates an additional cost of \$1.9 million per year for emission testing and monitoring.

The EPA estimates the increase in cost of production of the steel products to be well below one percent. The EPA expects market price increases for pickled steel to be negligible and foresees no plant closures or significant employment losses.

HOW DOES EPA'S RULE PROVIDE FLEXIBILITY TO INDUSTRY?

Pickling facility operators may comply with the emission limitation for hydrochloric acid by meeting either an emissions reduction target or a concentration standard. This option allows operators to comply with the rule under a wide variety of acid bath and ventilation conditions.

Emissions reductions for hydrochloric acid are based on wet scrubber control technology, which provides the facility operator the option of recycling hydrochloric acid from the scrubber effluent.

FOR FURTHER INFORMATION

Interested parties can download the final rule 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 rule, contact James Maysilles of the EPA's Office of Air Quality Planning and Standards at 919-541-3265.

The EPA's Office of Air and Radiation's (OAR's) home page on the Internet contains a wide range of information on the air toxics program and many other air pollution programs and issues. The OAR's home page address is <http://www.epa.gov/oar/>.

