FACT SHEET

Final Amendments to Air Toxics Standards for Refractory Products Manufacturing

ACTION

- On October 29, 2021, the U.S. Environmental Protection Agency (EPA) finalized amendments to the 2003 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Refractory Products Manufacturing.
- Refractory products are heat-resistant materials such as bricks and shapes, monolithic products, kiln furniture and crucibles. These products are designed for use in industrial settings with very high temperatures.
- Processes in this source category include the crushing, grinding and screening of raw materials; mixing the processed raw materials with binders and other additives; forming the refractory mix into shapes; and drying and firing the shapes.
- The Refractory Products Manufacturing source category includes four subcategories: clay refractories, non-clay refractories, chromium refractories, and pitch-impregnated refractories.
- Following a residual risk and technology review (RTR) conducted under the Clean Air Act (CAA), EPA determined that risks from the source category are acceptable. Based on the technology review, EPA is finalizing improvements to the work practice standards that apply during scheduled maintenance of control devices for emissions of organic air toxics from continuous kilns.
- In addition, EPA is addressing unregulated pollutants as follows:
  - *Clay refractory product manufacturers.* Emissions limits for mercury and particulate matter (as a surrogate for non-mercury metal air toxics).
  - *Nonclay refractory product manufacturers.* A work practice standard to use natural gas as fuel to reduce metal air toxics emissions.
  - *All refractory product manufacturers.* Revision of the natural gas provision to require use of equivalent fuels only, including during periods of natural gas supply interruption or curtailment.
- EPA is finalizing other minor amendments to the rule, including:
  - revised regulatory provisions related to emissions during periods of startup, shutdown and malfunction; and
  - provisions for electronic reporting of certain notifications and reports.

RESIDUAL RISK ASSESSMENT

- The CAA requires EPA to assess the risk remaining after application of the final air toxics emissions standard. This is known as a residual risk assessment.

- Clay facilities in this source category mainly emit acid gases that result from firing of clay that contains these chemicals. Non-clay facilities mainly emit organic air toxics from organic binders that are used to hold the raw materials together.
- The inhalation cancer maximum individual risk (MIR) based on actual emissions is less than 1-in-1 million for the Refractory Products Manufacturing source category.
- An MIR of 1-in-1 million implies that up to one person out of 1 million equally exposed people could contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to cancer cases that would normally occur in 1 million unexposed people.
- Additional health risk screenings and ecological risk screenings do not indicate levels of concern.
- EPA determined the remaining risk after application of the technology-based standards is acceptable, and the standards provide and ample margin of safety to protect public health and the environment.

TECHNOLOGY REVIEW

- The CAA requires EPA to assess, review and revise air toxics standards, as necessary, taking into account developments in practices, processes and control technologies.
- Based on the results of the technology review, EPA is finalizing amendments to the NESHAP, including new emissions limits and improved work practice standards.

BACKGROUND

- The CAA requires EPA to regulate toxic air pollutants, also known as air toxics, from categories of industrial facilities in two phases.
- The first phase is “technology-based,” where EPA develops standards for controlling the emissions of air toxics from sources in an industry group or “source category.” These maximum achievable control technology (MACT) standards are based on emissions levels that are already being achieved by the best-controlled and lower-emitting sources in an industry.
- Within 8 years of setting the MACT standards, the CAA directs EPA to assess the remaining health risks from each source category to determine whether the MACT standards protect public health with an ample margin of safety and protect against adverse environmental effects. This second phase is a “risk-based” approach called residual risk. Here, EPA must determine whether more health-protective standards are necessary.
- Also, every 8 years after setting MACT standards, the CAA requires EPA to review and revise the standards, if necessary, to account for improvements in air pollution controls and prevention practices and technologies.

FOR MORE INFORMATION

- Interested parties can download a copy of the final rule notice from EPA's website at the following address: https://www.epa.gov/stationary-sources-air-pollution/refractory-products-manufacturing-national-emissions-standards.
- Today's action and other background information are also available electronically at https://www.regulations.gov/, EPA's electronic public docket and comment system.
    - Materials for this final action can be accessed using Docket ID No. EPA-HQ-OAR-2020-0148.
- For further technical information about the rule, contact Paula Deselich Hirtz, EPA's Office of Air Quality Planning and Standards, at (919) 541-2618 or hirtz.paula@epa.gov.