

US EPA ARCHIVE DOCUMENT



Environmental Fact Sheet

Proposed Rule Aims to Revise Certain Treatment Standards for Spent Potliners from Primary Aluminum Reduction (K088) and Identify a New Regulatory Classification Scheme for Vitrification Units Treating K088 Waste

The Environmental Protection Agency (EPA) is proposing a more environmentally-sound regulatory strategy for the treatment of K088 waste. Every year around 100,000 tons of K088 waste (spent aluminum potliner from primary aluminum reduction) is generated by the aluminum industry. Under our existing Land Disposal Restrictions (LDR) program, generators are required to treat this waste to meet numerical concentrations standards prior to land disposal. Current treatment methods, while effective in achieving these numerical standards, have resulted in an almost three-fold increase in waste volume. Today's proposal signals a new direction for the LDR program, one which fosters the use of environmentally-sound recycling technologies over treatment that merely prepares a waste for land disposal. This proposal not only promotes the use of a technology that generates two usable products, fluoride dust and glass frit, it also results in the destruction of significant amounts of cyanide in K088 waste. As a consequence, if finalized, the rule will greatly reduce the volume of treated K088 residuals that are land disposed.

Background

As a result of past litigation efforts, the Agency has an opportunity to undertake a comprehensive re-evaluation of the entire regulatory strategy for K088. Over the last 18 months, we have gathered additional data and information on treatment and recycling technologies that could possibly serve as the basis for a more permanent K088 treatment standard. We have investigated technologies such as vitrification, gasification, and alkaline chlorination, among others. Our emphasis has been on the overall environmental benefits of the technology. Based on our evaluation, we have identified a technology, vitrification, that can provide superior treatment of cyanide, an extremely toxic hazardous constituent in K088 waste while, at the same time, recovering fluoride and generating usable glass product.

Action

EPA is proposing a three-part regulatory strategy for K088 treatment – a strategy that provides environmental protection but also flexibility with regard to regulatory compliance. The three basic components are:

- revised treatment standards for cyanide and fluoride in K088 nonwastewaters that encourage environmentally-sound recycling of fluoride and the production of useable products;
- identification and regulation of K088 vitrification units as RCRA Subpart X miscellaneous treatment units subject to appropriate air controls; and
- deregulation of certain outputs from K088 vitrification.

Specifically, EPA is proposing a new treatment standard of 2.7 mg/L fluoride for K088 nonwastewaters, measured by a version of the Toxicity Characteristic Leaching Procedure (TCLP) that uses deionized water as the leaching fluid (ASTM Method D3987-85 (1999)). The Agency is also proposing to revise the treatment standards to 1.4 mg/kg for both total and amenable cyanide in K088 nonwastewaters.

Furthermore, the Agency is proposing to classify all K088 vitrification units as a miscellaneous Subpart X treatment units and is recommending that permit writers consider the recently promulgated hazardous waste incinerator standards as the point of departure when developing a full suite of appropriate emissions standards for these units. This is, at least in part, because improper design, operation, or maintenance of these units could result in emissions of toxic compounds that could pose a threat to human health and the environment. This regulatory approach offers implementation flexibility so that regulatory agencies can impose only appropriate, environmentally protective conditions on a case-by-case basis.

In addition, in what is a logical outgrowth of this concept, the Agency is requesting comment on the extension of this rationale to all vitrification units, not just units processing K088. Finally, as the last component of the K088 strategy, EPA is proposing that both output streams (the fluoride dust and the glass frit) from the vitrification of K088 waste be classified as products, and no longer solid wastes, provided certain conditions are satisfied.

For More Information

This *Federal Register* notice and this fact sheet are available in electronic format on the Internet. The notice is available at [http://epa.gov/fedregstr/\[date of publication\]](http://epa.gov/fedregstr/[date of publication]). The fact sheet and other documents related to this rule are at <http://www.epa.gov/epaoswer/hazwaste/gener/K088.htm>. For additional information or to order paper copies of any documents, call the RCRA/Superfund Hotline at (800) 424-9346 (toll free) or (703) 412-9810 in the Washington, D.C. metropolitan area. The RCRA/Superfund Hotline operates weekdays (except federal holidays) from 9:00am to 6:00pm. Additional information may also be requested by writing to the RCRA Information Center (5305W), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, D.C. 20460.