



Office of Solid Waste

Environmental Fact Sheet

EPA Proposing to Allow Waste as an Energy Source for Synthesis Gas Production and Power Generation

EPA is Proposing to Conditionally Exclude, From RCRA's Definition of Solid Waste, Hazardous Secondary Materials That are Processed in Gasification Systems to Manufacture Synthesis Gas

Background

For the last 40 years, gasification technologies have been used commercially for the production of fuels and chemicals. Modern gasification systems are designed to convert carbon-containing materials into a synthesis gas product that can be used for energy production or as a building block for other chemical manufacturing processes. Coal, petroleum coke, hazardous oil-bearing secondary materials from the refining industry, municipal sewage sludge, hydrocarbon contaminated soils, and chlorinated hydrocarbon by-products have all been used successfully in gasification operations.

EPA believes that gasification systems processing hazardous secondary materials are better viewed as a production or manufacturing operation rather than a hazardous waste management activity. To that end, EPA proposes that RCRA requirements that attach to these operations present an unnecessary impediment to a legitimate fuel manufacturing activity.

Although only a few facilities are now processing hazardous secondary materials in gasification systems, the proposal may encourage great reductions in the volume of material sent for land disposal. In the petroleum refinery industry alone, where 7-10 million tons of hazardous waste are managed in RCRA units, significant transfers of material to gasification systems are forecast. Additional environmental benefits may include:

- ! Increased resource conservation through displacement of virgin materials used in manufacturing; and

- ! Reduction in energy usage and pollution from reductions in the acquisition, transportation, and preparation of virgin materials used in electricity production, petroleum refining, and chemical manufacturing industries.

Action

EPA proposes to revise the RCRA regulations to conditionally exclude, from the definition of solid waste, hazardous oil-bearing secondary materials generated by the petroleum refining industry (SIC code 2911) when the materials are processed in a gasification system for the manufacture of synthesis gas provided:

- ! System meets the definition of a gasification system;
- ! System generates a synthesis gas fuel meeting the specifications of exempted synthesis gas;
- ! Materials generated by the gasification system are not placed on the land if they exceed nonwastewater Universal Treatment Standard (UTS) for chromium, lead, nickel, vanadium, arsenic, and antimony shown in the 40 CFR 268.48; and
- ! Materials are not placed on the land or speculatively accumulated prior to their insertion into the gasification system.

EPA is also proposing an expansion of this conditional exclusion to other hazardous secondary materials from other industrial sectors. To expand the exclusion, three modifications are proposed:

- ! Nonwastewater UTS constituents would increase from six to fifteen – capturing the entire suite of inorganic constituents regulated by RCRA in 40 CFR 268.48.
- ! Each hazardous secondary material processed in a gasification system has a total organic carbon (TOC) content of at least 20%; and
- ! Mercury-bearing secondary materials wastes can not be processed in the gasification system.

For More Information

The Federal Register Notice, this fact sheet and related documents are available in electronic format at: <<http://www.epa.gov/epaoswer/hazwaste/id/index.htm>>. For additional information, or to order paper copies of any documents, call the RCRA Call Center. Callers within the Washington Metropolitan Area please dial 703-412-9810 or TDD 703-412-3323 (hearing impaired). Long-distance callers please call 1-800-424-9346 or TDD 1-800-553-7672. The RCRA Call Center operates weekdays, 9:00 a.m. to 5:00 p.m. Address written requests to: RCRA-Docket@epa.gov or RCRA Information Center (5305W), 1200 Pennsylvania Avenue, NW, Washington, DC 20460-0001.