UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE of
SOLID WASTE AND EMERGENCY
RESPONSE

Richard E. Ayres, Esquire
Howrey & Simon
1299 Pennsylvania Avenue, N. W.
Washington, D.C. 20004-2402

Dear Mr. Ayres:

Thank you for your letter of December 29, 1997 expressing concern that the Environmental Protection Agency's (EPA's) proposed "comparable fuels" rule may not adequately address potential emissions of dioxins and chlorinated hydrocarbons. You note that investigations by Dr. Barry Dellinger, University of Dayton, indicate that to control emissions of chlorinated dioxins and other hydrocarbons when comparable fuels are burned, it may be more appropriate to limit levels of catalyzing metals in comparable fuels than limit levels of inorganic chlorine as the Agency has proposed.

Dr. Dellinger appears to have completed a thorough review of the papers that were cited as documenting gas-phase formation (i.e., in the absence of a metal catalyst) of chlorinated hydrocarbons (CHCs) from inorganic chlorine. Dr. Dellinger's assessment may be correct that metal catalysts may have been present as contaminants in two of the studies and that CHC formation in the third study may have been from photo-addition at room temperature, which is not a preferred reaction at elevated temperatures in the absence of ultraviolet light.

Nonetheless, the Agency continues to believe that limiting total chlorine levels (including inorganic chlorine) in comparable fuels is appropriate under current circumstances. Although we agree with Dr. Dellinger that copper has been identified as a particularly aggressive catalyst that promotes surface catalyzed formation of chlorinated dioxins and other CHCs, iron and nickel have also been suggested as metal catalysts, and there may well be other catalysts. (See the studies cited in "Draft Technical Support Document for HWC MACT Standards. Volume IV: Compliance with the Pro-posed MACT Standards," February 1996, p. 7-8.) Agency tests at a cement kiln have shown no correlation between emissions of chlorinated dioxins and copper feedrates, perhaps because of the presence of other metal catalysts. Ibid. In addition, FINA Oil and Chemical Corporation's own emissions data showed that CHCs could be formed from burning its waste which contains neither organic chlorine nor copper.

Given the uncertainty about the full suite of catalysts and how they may impact CHC emissions from burning comparable fuels, and given that the metals which have

been identified as catalysts are essentially ubiquitous in hazardous and nonhazardous wastes and fossil fuels. the Agency is not in a position to focus exclusively on catalysts to control CHC emissions. Rather, until more is known about dioxin catalysts, it appears appropriate and prudent to limit the levels of total chlorine in comparable fuels to the levels in our benchmark fossil fuels. Although this may not ultimately be the entire solution to limiting CHC formation from burning comparable fuels, it would help limit formation of CHCs to levels that may be formed when burning benchmark fossil fuels. This is also consistent with the underlying approach to the comparable fuels rule of using benchmark fuel constituent concentrations.

As more is learned about metal catalysts, it may be appropriate in the future for EPA to consider revising the rule to limit the concentrations of these metals in comparable fuels to the levels found in our benchmark fossil fuels. Should the Agency determine at some point that revising the regulation is advisable, it may also be appropriate to consider whether limiting inorganic chlorine levels in comparable fuels would continue to be warranted.

We would appreciate the opportunity to review any relevant data or information that becomes available on this issue in the future. Thank you for your interest in this matter and for enhancing our understanding of CHC formation mechanisms in the presence of inorganic chlorine.

Sincerely yours,

Michael Shapiro
Acting Deputy Assistant Administrator