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United States Environmental Protection Agency  
Washington, D.C. 20460  
Office of Solid Waste and Emergency Response

March 24, 1994

MEMORANDUM

SUBJECT: Regulatory Status of Mercuric Chloride Catalyst

FROM: Michael Shapiro, Director  
Office of Solid Waste

TO: Allyn M. Davis, Director  
Hazardous Waste Management Division Region VI

This responds to your memorandum of January 6, 1994, requesting clarification of the definition of "spent material" as it applies to a mercuric chloride catalyst used by Borden Chemicals.

According to your memorandum, Borden uses a mercuric chloride catalyst to promote a reaction of acetylene and hydrogen chloride in the production of vinyl chloride monomer. Borden removes the catalyst when it is partially depleted in mercuric chloride content. The partially depleted catalyst is then sent to Thor Chemicals in South Africa where the mercury is recovered from the catalyst and used to produce additional mercuric chloride catalyst.

Borden's claim, which was upheld by the State of Louisiana, is that the used catalyst does not meet the regulatory definition of "spent material" because the catalyst is not contaminated. While the regulatory language is not as clear as we would like it to be, we would view this material as a spent material. Under the regulations, a "spent material" is "any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing." We have consistently interpreted this definition as meaning "materials that have been used and are no longer fit for use without being regenerated." 50 FR at 618 (January 4, 1985); 48 FR at 14476 (April 4, 1983). We thus consider "contamination," as used in the definition of spent

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material, to be any impurity, factor, or circumstance which causes the material to be taken out of service for reprocessing (i.e., for treatment by reclamation). (See also 50 FR at 624, indicating that the reference to "contamination" was added to clarify that a material such as a solvent may continue to be used for its original, though not identical, purpose and not yet be classified as a solid waste.) Similarly, we consider the part of the definition stating that a spent material "can no longer serve the purpose for which it was produced" as being satisfied when the material is no longer serving its original purpose and is being reprocessed instead. EPA has consistently maintained this interpretation since the definition of spent material was promulgated.

This is the only interpretation that makes environmental sense, since once used materials are taken out of service and sent for reclamation they pose the same potential risks and are handled in the same manner regardless of the reason they are taken out of service. Put in terms of a specific example, lead acid batteries that are taken out of service and sent to a lead reclaimer pose the same risks and are handled the same way no matter how much or how little they are contaminated, and no matter how much or how little the contamination contributed to the decision to stop using the battery in the first place. See *United States v. Ilco Inc.*, 996 F.2d 1126 (11th Cir. 1993), where the court held that all batteries sent to a secondary lead smelter for recovery were "spent materials" without regard for the reason the batteries were taken out of service.

If Borden has used the catalyst and will no longer use it without it being reclaimed, it is considered spent. Therefore, if, as you indicate, the depleted catalyst is giving up chlorine to become elemental mercury and as a result can no longer promote the reaction, it is a spent material. We view this whole depletion process as a type of "contamination" under the definition. Since the spent material is being reclaimed and exhibits a characteristic, it is therefore a solid and hazardous waste under the regulations. (40 CFR §261.2(c)(3); *Ilco*, supra.)

If you have further questions on this issue, please contact Mitch Kidwell or Becky Daiss at (202) 260-8551.