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OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

MAR 18 1987

Mr. Carl Berger, Director
Power Sources Division
U.S. Army Laboratory Command
Electronics Technology and Devices Laboratory
Fort Monmouth, New Jersey 07703-5302

Dear Mr. Berger:

I am responding to your letter of August 18, 1986, in which you request an Agency opinion that Lithium/Sulphur Dioxide (Li/SO2) batteries that have been fully discharged to zero volts no longer exhibit the characteristics of reactivity. Based on information supplied by the US Army Electronics Technology and Devices Laboratory (LABCOM), we generally agree that such batteries are unlikely to be reactive.

Under the hazardous waste regulations, each generator of a waste is responsible for making a hazardous waste determination under 40 CFR 262.11. If the waste exhibits one of the four characteristics of hazardous waste identified in Subpart C of Part 261 or is a waste listed in Subpart D of Part 261, it must be managed in accordance with the hazardous waste regulations. As you know, on March 7, 1984, in response to requests from the Department of the Army, EPA rendered an opinion that spent or discarded Li/SO2 batteries appeared to exhibit the characteristic of reactivity, as defined in 40 CFR 261.23. The Agency further noted that 264.312 and 265.312 of the hazardous waste regulations prohibit the placement of reactive (or ignitable) hazardous waste into a landfill unless the waste, or waste mixture, is treated, rendered, or mixed before, or immediately after, placement in a landfill such that the waste or waste mixture no longer exhibits the characteristic. Thus, the prohibition would no longer apply if the waste no longer exhibited the characteristic of reactivity (or ignitability).

The Agency continues to believe that fully charged and duty-cycle Li/SO2 batteries are reactive hazardous wastes and should be managed as such. However, information provided by LABCOM during the August 5 meeting with members of my staff and in your follow-up submission of August 18th indicates that a Li/SO2 battery that has been fully discharged to zero volts would contain substantially reduced quantities of reactive materials such that the battery is not likely to exhibit any of the properties of the reactivity characteristic. We assume that by fully discharged, LABCOM means that each cell within each battery will have been discharged.

It is our understanding that the mechanism by which the Army intends to effect discharge of all Li/SO2 batteries to zero volts would be through a battery redesign that would incorporate an additional resistor circuit that would be activated by an external, manual switch. While such an approach would appear to be capable of producing the desired results, it remains the responsibility of the generator or the disposer to ensure that all batteries so discharged have in fact reached a fully discharged state and, thus, are no longer reactive.

In conclusion, the Agency agrees that a Li/SO2 battery which has been fully discharged is unlikely to exhibit the characteristic of reactivity. However, the responsibility for determining whether a waste exhibits a characteristic of hazardous waste either before or after treatment still remains with the generator and treatment or disposal facility.

Sincerely,

Original Document signed

Marcia Williams
Director
Office of Solid Waste

Enclosure