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AVAILABILITY OF CRITERIA USED TO EVALUATE THE CHARCTERISTIC OF REACTIVITY

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

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Vanessa J. Schiller
Industrial and Hazardous Waste Division
Texas Water Commission
P.O. Box 13087
1700 North Congress Avenue
Austin, Texas 78711

Dear Ms. Schiller:

Thank you for your January 25 letter regarding the availability of criteria and/or guidelines EPA uses in evaluating the characteristic of reactivity.

EPA currently has a test procedure in place that evaluates the reactivity of waste which releases hydrogen cyanide or hydrogen sulfide gas when mixed with a weak acid. EPA has not proposed a test method for evaluating a waste which releases hydrogen gas when mixed with water. I have enclosed with this letter a copy of the Agency's supporting guidance for the reactivity characteristic. This guidance explains EPA's position and rationale for developing this characteristic. In addition, Appendix 3 of this document describes and evaluates available reactivity testing methods, one of which is for water reactivity. This may provide you with a guideline for evaluating waste that may be reactive with water.

EPA attempts to define our hazardous waste characteristics in terms of specific, numerically quantified properties measurable by standardized and available testing protocols. However, in the case of reactive wastes, it is difficult to construct a numerically quantified definition of reactive wastes because the term "reactivity" embraces a wide variety of different (although overlapping) effects, each of which can be triggered by an equally wide variety of initiating conditions or forces. Further, the

properties embraced by the term reactivity are relative properties. The determination of whether something "reacts vigorously with air or water" or is "unstable with respect to heat or shock" is a relative determination, not an absolute one. Because the effects being measured proceed along a continuum, it is difficult to draw the line at any particular point. EPA is currently looking into procedures for testing wastes for hazardous characteristics, and determining wastes that react with water is a part of this research.

If you have any further questions regarding this subject or if you find a test procedure that is useful in determining water reactivity, please contact either Valerie Wilson (202-260-4678) of the Characteristics Section or Oliver Fordham (202-260-4778) of the Methods Section.

Sincerely,
Sylvia K. Lowrance, Director
Office of Solid Waste