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

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

SUBJECT: Characterization of Nitrocellulose Filter Fabric Waste

FROM: Elizabeth A. Cotsworth, Acting Director
Office of Solid Waste

TO: Barbara A. Finazzo, Director
Division of Environmental Science and Assessment

Thank you for your memorandum of August 18, 1997 requesting guidance from the Office of Solid Waste on technical issues of waste characterization for nitrocellulose filter fabric waste. While we have no specific knowledge of this waste stream per se, we can offer general guidance on the questions you have raised.

Ignitability: Method 1030 is not required by our regulations. Section 1.1 of the method states, "This method is suitable for the determination of the ignitability of solids and is appropriate for pastes, granular materials, solids that can be cut into strips, and powdery substances. This method may be used to meet certain regulatory applications: with respect to the characteristic of ignitability in CFR §261.21, this method may be used, but is not required, to determine whether a solid waste "when ignited, burns so vigorously and persistently that it creates a hazard." If it is impractical to perform the test because of the physical form of the sample, generator knowledge should be used to determine the ignitability hazard posed by the material.

The characteristic of ignitability under 40 CFR §261.21(a) (2) states, "It is not a liquid and is capable under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical change and, when ignited, bums so vigorously and persistently that it creates a hazard." Method 1030 may be a useful procedure to determine if the waste bums "vigorously and persistently", the second part of this ignitability characteristic, but the method does not address the mode of ignition, the first part of the characteristic. To prepare samples of nitrocellulose filter fabric waste for Method 1030, cut the fabric into long strips to lay in the bum rate mold as quoted in Section 1.1 above. The bum rate procedure, in the method is then conducted as written after this simple sample preparation step. We do not advise grinding, shredding, or chopping the sample into small pieces as this would alter the form of the waste and greatly increase its surface area.

Reactivity: The reactivity characteristic, 40 CFR §261.23, is a narrative definition

without specified testing protocols, except for reactive cyanide and sulfide. We have no experience with nitrocellulose filter fabric waste and thus have no test procedures to recommend to you for characterization of this waste. We suggest you contact Eric Nottingham, Laboratory Branch Chief, U.S. EPA National Enforcement Investigation Center in Denver, Colorado (303-236-5 132) for advice on possible tests for reactivity. They are the Agency's experts in this area and have supported many investigations of this type.

Waste Stream Sampling: There are many possible approaches for sampling the waste. The regulations only say a "representative sampling" should be collected. First you must define the disposal unit. Is it each bale, analogous to individual drums, or is it the total accumulation of bales, analogous to a warehouse of drums. Because of the physical form of this waste, composite samples will be difficult to test, so individual grab samples should be used. If some of the waste proves to be characteristically hazardous, you will need to consult a statistician on an appropriate design to assure the level of confidence you need to make a decision on the hazard posed by the entire waste. As an initial step, use judgmental sampling of the different types of filter waste. Are they characteristically hazardous? If you can't identify individual components (filter types) of the waste which are hazardous, that is good assurance that the entire waste is non-hazardous and that further sampling and testing is not necessity. This technique known as stratification by component is more fully explained in ASTM Standard D5956-96, Standard Guide for Sampling Strategies for Heterogeneous Wastes. If a representative sample of each component of the waste is collected and tested, this addresses the representativeness, comparability, and completeness criteria for the entire waste. If each of these components is non-hazardous; then the entire waste is non-hazardous.

I hope the information provided helps resolve your questions on these sampling and analysis issues. If you need further clarification, please call Ollie Fordham of my staff at 703-308-0493 or send e-mail to fordham.ollie@epamail.epa.gov.

cc: Barnes Johnson
Gail Hansen
Eric Nottingham
Ollie Fordham

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2

SUBJECT: Technical Issues - Waste Characterization

FROM: Barbara A. Finazzo, Director
Division of Environmental Science and Assessment

TO: Elizabeth Cotsworth, Acting Director
Office of Solid Waste

The Division of Environmental Science and Assessment (DESA) has been asked to develop a sampling plan and an analytical statement of work to support characterization of reactivity ignitability of a nitrocellulose filter fabric waste. In discussions among Region II DESA and Division of Enforcement and Compliance Assistance(DECA) staff regarding development of the sampling plan and analytical protocols to include in a statement of work, several issues have been raised for which we are requesting headquarters program guidance. The issues for which we are seeking guidance are as follows:

Ignitability: Is it appropriate to utilize Method 1030 for characterizing the nitrocellulose filter waste as hazardous? If this method is appropriate, please provide guidance on the protocol for utilizing the method in testing filter fabric strips. We are particularly interested in information on determining the burning rate of filter fabric strips.

Reactivity: We are requesting specific guidance on the proper approach and testing protocol to determine the filter fabric waste reactivity characteristic.

Waste Stream Sampling: The nitrocellulose filter fabric producer generates waste through batch production of filter fabric that vary both in nitrocellulose content, size of the waste fabric pieces, and physical structure (varying porosity and fabric thickness). The waste fabric is baled for disposal, and depending on the production schedule, each bale may contain different combinations of varied filter fabric waste. We are requesting that you provide guidance on how to address representativeness, comparability, and completeness criteria in the waste sampling protocol.

Your earliest assistance in this matter is appreciated. Please have

your staff contact Robert Runyon of my staff at 908-321-6645 if you have any questions regarding this request. Thank you.

cc: C. Simon
G. Meyer

REGION I! FORM 1320-1 (9/85)