Ignitable Waste Exclusion Clarification

FACT SHEET 37-003-0918

1. BACKGROUND. Liquid wastes with a flash point of less than 60 degrees Centigrade(ºC)/140 degrees Fahrenheit (ºF) are classified as ignitable hazardous waste (D001) under 40 Code of Federal Regulations (CFR) Part 261.21. An exclusion exists in 40 CFR 261(a)(1) that exempts all aqueous solutions containing less than 24 percent alcohol from regulation as D001 waste. Many hospital laboratory waste streams are alcohol-based. These wastes are collected as hazardous waste to prevent discharge of low flashpoint solutions (below 140ºF) into the sanitary sewer system. However, many alcohol-based waste streams contain less than 24 percent alcohol and can be reclassified to non-regulated wastes according to the ignitable waste exclusion. Disposal as a non-regulated waste is a less expensive option for eligible waste streams that prevents discharge of chemical wastes into the sewer system. Reclassification to non-regulated waste reduces the regulatory burden for hazardous waste management and reduces the amount of hazardous waste generated at the facility.

2. SCOPE OF EXCLUSION. According to the May 19, 1980, Federal Register (45 FR 33108), the Environmental Protection Agency (EPA) originally created the alcohol exclusion to exempt alcoholic beverages and some types of latex paints, which exhibit low flash points due to the alcohol content, but do not sustain combustion because of high water content. In June 1990 (55 FR 22543) the EPA clarified that the term 'alcohol' in 40 CFR 260.21 refers to any alcohol or combination of alcohols containing the functional hydroxyl (-OH) group. This clarification significantly broadened the scope and allows for aqueous alcohol wastes with non-alcoholic components to qualify for the alcohol exclusion. For example, a waste containing 15 percent ethyl alcohol, 2 percent limonene, and 83 percent water is eligible for the alcohol exclusion. The presence of a non-alcoholic component does not prohibit the waste stream from qualifying for the alcohol exclusion as long as the waste is aqueous (see Definition of Aqueous Solution) and does not contain a regulated solvent (see Regulation). (9443.1992(03) RCRA/Superfund/OUST Hotline Monthly Report Question July 1992)

3. DEFINITION OF AQUEOUS SOLUTION. The Resource Conversation and Recovery Act of 1976 (RCRA) regulations do not specifically define the term 'aqueous solution'; however, the EPA originally intended to incorporate the Department of Transportation's (DOT) alcohol exclusion in 49 CFR 173.115(b)(2)(ii). The DOT alcohol exclusion applies to aqueous solutions containing 24 percent or less alcohol by volume and no less than 50 percent water. The EPA clarified "aqueous solution' in an internal memorandum to mean a solution in which water constitutes a minimum of 50 percent of the sample composition.

4. REGULATION. Wastes that qualify for the alcohol exclusion under 261.21 are not exempt from RCRA regulation altogether. They are only exempt from classification as D001 characteristic waste and must be evaluated to determine if other hazardous waste classifications apply, including corrosivity, toxicity, and reactivity. If the alcohol is one of those alcohols specified in EPA hazardous waste codes F001-F005 and has been used for its solvent properties, the waste must be evaluated to determine whether it should be classified

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as an F-listed spent solvent waste. For example, waste streams containing a total of 10 percent or more of isobutanol that were used as solvents are classified as F005 waste, while technical grades of methanol and n-butyl alcohol that were used as solvents are F003 wastes. Additionally, many other unused commercial chemical products containing alcohol as the sole active ingredient are classified as P- or U-listed wastes. Examples include phenol, propanol, and resorcinol.

Note: Not all chemical waste constituents are solvents just because they are on a spent solvent listing. The December 31, 1985, Federal Register (53 FR 53316) specifies that, "the spent solvent listings apply only to those solvents that are used for their solvent properties, that is to solubilize (dissolve) or mobilize other constituents." When addressing the topic of spent solvents in the November 17, 1981 Federal Register (46 FR 56584), the EPA stated, "The same substances may also be used in a manufacturing process as chemical reactants or process intermediates, and when so used, are not considered to be spent solvents." For example, Histology and Cytology Laboratories convert human cell and tissue specimens into diagnostic slides for microscopic examinations. During slide production, specimens are processed into a form that can be applied to slides for medical diagnoses. This process involves multiple procedures and numerous chemicals that include ethanol, methanol (various concentrations), xylene, various stains, and paraffin. Reagent grade alcohols and xylene are used for specimen preservation, embedding and staining procedures (xylene prevents tissue and cellular distortion). In this capacity, the chemicals are part of the slide production process and considered necessary ingredients (process intermediates) not solvents.

5. OTHER ENVIRONMENTAL LAWS. The Clean Water Act (CWA) regulates ignitable materials in a manner similar to RCRA: the 40 CFR 403.5 specifically prohibits discharges into a Publicly Owned Treatment Works (POTW) of waste streams with flash points below 140ºF. The CWA also prohibits intentional dilution of wastes with water to raise the flash point prior to discharge. However, the CWA permits the unintentional dilution of discharges prior to the discharge point into the POTW. The discharge point will typically be the point where compliance with the general, specific, and local pretreatment requirements must occur, such as a location within the sewer line located down gradient from the building or where the effluent exits a neutralization tank. Unintentional dilution entails the commingling of discharges with normal sewer line contents as they move through the building to the POTW. Discharging wastes with flashpoints less than 140ºF is generally prohibited, because waste generators cannot determine if incidental dilution is sufficient to raise the flashpoint above 140ºF without testing the effluent at the regulatory discharge point.