



Sharon Leitch
07/29/02 12:55 PM

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Subject: Re: regulatory interpretations

Russ, the following is a response to your e-mail below. I apologize for the time it has taken to get back to you. We had some questions regarding your request but were unable to contact you, we wanted to be as responsive as we could in replying to you.

1. Silica gel

The following response is based on our understanding of the situation described:

A process is conducted in which solvent is utilized as a product for purposes of conducting analytical testing. The process requires the solvent to pass thru a silica gel medium. The question asked by you is whether or not the silica gel, upon generation, would be regulated as a listed hazardous waste. In your scenario, you state that the solvents may be used in a variety of ways. Some of the ways mentioned may cause the silica gel to be regulated as a listed hazardous waste. For example, a charcoal filter used in a dry-cleaning unit is regulated as an F002 waste because the solvent passing thru this charcoal is used for cleaning and the resultant spent solvent an F-listed waste. If the solvents in the silica gel were used for their solvent properties, as is commonly the case when analytical testing is conducted, the waste silica gel would be hazardous due to the mixture rule at 40 CFR 261.3(a)(2)(iii) & (iv) since the spent solvent would become an F-listed hazardous waste, therefore making the entire mixture of spent silica gel and spent solvent hazardous. If the solvents do not meet the listing description the silica gel may potentially be non-hazardous unless the resultant waste meets a characteristic. The various scenarios you generically reference may be regulated if the case specific facts meet the appropriate hazardous waste identification criteria. Please be aware that it is ultimately the responsibility of the generator to make the waste determination and to consider the use of the solvent and other process specific information that would be required to appropriately and correctly classify such waste.

You should also consult with the State regulatory authority since all of the New England States are authorized to administer and enforce the base RCRA program in lieu of the federal program and, in particular, have the regulatory authority regarding hazardous waste determinations.

2. Precious metal recycling

For this topic you propose a scenario where precious metals residues are generated from various processes. During these processes the metal residues are dissolved in different solvents. The metals are ultimately reclaimed by distilling off the solvent and sending off the metals for reclamation.

The following is a response to the questions you raised for this topic:

1) The processes from which the metal bearing sludges are generated will determine whether the waste meets any of the listing descriptions. Often-times, plating bath sludges will meet the F008 or F009 listing descriptions. At a minimum, the sludges which result from electroplating operations, including etching, would be an F006 waste. The presence of spent solvents may require additional hazardous waste codes to apply to this waste. These EPA hazardous waste codes would be identified on the Land Disposal Restriction Forms to ensure that

the waste or its residuals receive proper treatment prior to final disposal. It should be noted that precious metal-bearing hazardous wastes may be subject to reduced requirements under Part 266, Subpart F providing you maintain records that document that this waste is not speculatively accumulated. As we have stated in our response under item number 1, it is the responsibility of the generator to make proper waste determinations, particularly for the Land Disposal Restriction regulations that would apply to these sludges.

2) A manifest would be required since you would be shipping a hazardous waste. However, if you comply with the requirements for precious metals recycling, found at 40 CFR part 266, Subpart F, where applicable, the shipment of the sludge would be subject to reduced requirements. Again, as stated above, a Land Disposal Restriction notice is required for any manifested shipment.

3) If the material is not a federal hazardous waste then EPA would have no authority. However, you should check with the individual state to determine if they have any additional regulations that may apply.

Please note, for either of the scenarios that you have presented, when the solvents become spent and no longer used for their intended purpose they become a solid waste and very likely will be subject to hazardous waste requirements.

I hope that this reply provides you with an adequate response to your questions. Please do not hesitate to contact me if you have any further questions.

Sincerely,

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05/01/02 10:18 AM

To: Sharon Leitch/R1/USEPA/US@EPA
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Sharon –

Here are some additional details on the two questions we discussed.

1. Silica gel waste

The processes generating this waste include use as a separation medium, absorbent, or catalyst. The most common application is chromatography or separation of complex mixtures. The RCRA regulated

chemicals that come in contact with the silica gel include solvents such as ethyl acetate, acetone, hexane, methylene chloride, ethyl ether and methanol; many of these are F listed. However, the solvent is NOT spent in this process, either before or after contact with the silica gel (it is the silica gel itself which becomes spent). It is our interpretation that this waste cannot qualify as F listed (though it may indeed meet the definition of a characteristic waste if it retains, for instance, the characteristic of ignitability or TCLP toxicity). Is this a correct interpretation?

2. Precious metal recycling

The processes where such precious metal residues as platinum, ruthenium, rhodium, iridium, osmium, gold, silver and/or palladium are generated include the synthesis of organometallic compounds, electroplating, metal deposition, or etching. During these processes the metal residues are dissolved in solvents such as water, acetone, methylene chloride, ethyl ether, pentane, toluene, benzene, ethanol, or hexane. The lab's procedure calls for the metals to be reclaimed by distilling off the solvent (which is collected and reused OR discarded as waste) and collecting the resulting metal sludges, which are then consolidated for reclamation by a refiner. This process results in three questions – 1) is the metal-bearing sludge regulated as hazardous waste under F listing if F listed solvents are used? 2) If the material IS regulated as a RCRA waste (by TCLP or F listing), what requirements apply to shipments of this material for reclamation? 3) Is there any regulation by EPA of the reclamation process (including manifesting) if the material is NOT regulated as a hazardous waste?

I will be glad to further clarify these points if I haven't been clear enough. At any rate, I would appreciate a written response, either by letter, fax or email. Thank you for your consideration.

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