



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ONE CONGRESS STREET SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

December 20, 2005

Mr. Edward Pickering, PE, MBA
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Woodard & Curran
980 Washington Street, Suite 325
Dedham, MA 02026

Dear Mr. Pickering:

This letter is in response to your request for an EPA Region I regulatory interpretation regarding the applicability of Resource Conservation and Recovery Act (RCRA) requirements to the waste and/or wastewaters generated during cleaning of laboratory glassware and implements. In your May 10, 2005 letter to me you ask about a scenario in which laboratory technicians squirt a 70% methanol (ignitable) solution from wash bottles onto items being cleaned in a sink. In your letter you state, "[i]nvariably, when sinks are used for such activities, the water is turned on at a flow rate of approximately one gallon per minute and left on during the entire duration of the process to aid in the cleaning procedure, and to capture and deliver the methanol solution/waste material for discharge into the drain." You infer that this process generates a wastewater which because of dilution will lose its ignitability characteristic. You state that the wastewater is carried through a segregated plumbing system constructed with chemical-resistant piping to a pH adjustment treatment tank, prior to being discharged to a municipal sewer and mixing with domestic sewage. You note that the discharged wastewater is subject to pretreatment requirements under section 307(b) of the Clean Water Act.

Your letter raises the general issue of whether concentrated chemicals may be discharged down laboratory drains. In responding, I first want to emphasize that the EPA considers the discharging of concentrated chemicals down laboratory drains to be a poor environmental practice. In the scenario you describe, the presumable purpose of the methanol solution is to remove contaminants that are not amenable to dissolution and removal by water. Applying the methanol solution in the presence of running water may limit the effectiveness of the methanol and require the application of a greater amount of methanol solution.

A preferred procedure, employed in EPA's own regional laboratory and common throughout academic, research and healthcare facility laboratories, is to apply solvents or solvent solutions over some form of container that can capture excess, spent solvent as it flows off of the glassware/implements being cleaned. This captured spent solvent is then managed as a hazardous waste. Following this step the glassware is then rinsed with running water and only

the smaller volume of residue still adhering to the cleaned surfaces is washed off and discharged down the drain subject to the Clean Water Act.

However, whether the scenario you describe violates RCRA requirements depends in part on the requirements of the States that have been authorized to implement the federal RCRA program. All six New England States in Region I have been authorized to implement this program. All of them have regulations and interpretations of those regulations which address this issue, which generally are more stringent than the minimum federal RCRA requirements and interpretations. Under RCRA, States are entitled to interpret requirements more stringently than the EPA. Thus throughout Region I, it is actually the State RCRA requirements (as interpreted by the States) that must be followed regarding this matter.

Accordingly, I have consulted with the six States before answering your letter. I apologize for the time that this has taken, but am now able to pass along to you that the six New England States generally do not allow the practice suggested in your letter. The regulations and reasoning used by each state may differ from one state to the other, but the general conclusion is consistent across all six states. In relaying the State positions, I am not intending to state or imply what the EPA position would be on these matters. What the minimum federal requirements regarding this matter would be is irrelevant in Region I since all six Region I States have taken more stringent positions with respect to this matter.

Overview of State Requirements

In analyzing the scenario you presented, the six States in Region I have first agreed that the methanol solution becomes a spent material after being utilized for cleaning. Since the solution is ignitable, any undiluted spent solution dripping from the glassware or implements can be expected to be a characteristic hazardous waste (D001).¹ The Land Disposal Restrictions - Treatment Standards for D001 would classify the methanol solution as being in the High TOC Ignitable Characteristics Liquids Subcategory as defined in 40 C.F.R. § 268.40, because a 70% methanol solution, even when mixed with a small volume of other material removed from the item being cleaned, will contain significantly greater than 10% total organic carbon.

A key question is whether the application of the methanol solution should be conducted in the presence of running water. Under the interpretations of the six New England States, combining the solvent rinse and the water rinse into a single integrated step results in intentional dilution of the D001 High TOC Ignitable Characteristic Liquid subcategory waste (the spent solution that could have been kept segregated.) Such wastes are specifically barred from dilution by 40 C.F.R. § 268.3 since a treatment method other than DEACT (deactivation) has been specified in 40 C.F.R. Part 268.40 for this subcategory of the D001 waste code. Thus diluting the methanol

¹ Spent cleaning solutions also may be listed wastes. If a spent solution is a listed waste in addition to being a D001 characteristic waste, this would not change the positions described in this letter.

solution during the first cleaning step and then discharging the resulting wastewater down the drain violates RCRA requirements as interpreted by the six New England States.

It also would violate RCRA requirements as interpreted in the six New England States to discharge the 70% methanol solution down the drain without dilution during the first cleaning step. Without dilution, the methanol solution would remain a hazardous waste when initially discharged. Under their RCRA programs, the six Region I States generally do not allow the discharging down drains of such concentrated hazardous wastes.²

The six New England States agree that the dilute rinsewaters generated by the second cleaning step described above may be discharged subject to Clean Water Act requirements. Use of water during this second step is an appropriate part of the cleaning process rather than intentional dilution, assuming that full efforts already have been made during step one of the cleaning process to capture as much of the hazardous waste as possible. RCRA jurisdiction thus may be avoided if the resulting rinsewaters are not hazardous (i.e., no longer ignitable) at their point of generation in the sink. Each laboratory/generator should determine whether its rinsewaters are hazardous, based either on testing or knowledge of the waste.

If a generator is not confident that its rinsewaters generated by the second cleaning step are non-hazardous, it should assume that they are hazardous, but still may be able to discharge them subject to Clean Water Act requirements in the six New England States. All six States consider a laboratory's pH adjustment treatment tank and associated piping to be a wastewater treatment unit, and all six States have RCRA regulations allowing dilute hazardous wastewaters to be treated in such units and then discharged. However, the requirements regarding wastewater treatment units handling hazardous wastewaters vary from State to State (e.g., a limited RCRA program permit must be obtained in New Hampshire to operate such a unit). Thus a regulated entity proposing to treat and discharge a hazardous dilute wastewater should review the regulations of the relevant State and if necessary contact the RCRA program in that State.

It also should be noted that laboratories discharging hazardous wastewaters into POTWs must file the notifications required by the Pretreatment Program under 40 C.F.R. § 403.12, as well as complying with all other applicable federal, state and local pretreatment program requirements. This notification would not be necessary for laboratories that have determined that their dilute wastewaters generated during the second cleaning step are not hazardous, but such laboratories must of course still meet all other applicable federal, state and local pretreatment program requirements.

² All six of the New England states recognize that there may be unusual situations in which it makes environmental sense to discharge a concentrated hazardous waste pursuant to Clean Water Act requirements rather than handling the waste under RCRA. However, since all of them generally do not allow this practice, a regulated entity in New England should not proceed to discharge such concentrated hazardous wastes without advanced approval from or consultation with the RCRA program in the relevant State. Some of the states would require the obtaining of a state permit before discharging a concentrated hazardous waste whereas others would address any special situation by issuing a regulatory interpretation.

Conclusion

We thus conclude that any facility should review a particular State's regulations and consult as necessary with their respective state on the specifics of a discharge of hazardous chemicals down a laboratory drain. It is our additional conclusion that the cleaning procedure you describe, which applies concentrated chemicals in the presence of running water rather than keeping them segregated to the extent possible, is a poor laboratory practice. Based on our consultations with the States, we also advise you that the practice generally is illegal within the six New England States.

Note that this letter has no applicability to States outside Region I, which may require only compliance with the minimum federal requirements and interpretations, or which may have other additional and more stringent requirements and interpretations. Please contact the State official copied below should you have any further questions about the applicability of the RCRA requirements for discharges of hazardous chemicals down a laboratory drain in a particular New England State.

Sincerely,



Marv Rosenstein, Chief
Chemicals Management Branch

cc: Kevin Sullivan, CTDEP
Stacy Ladner, MEDEP
James Miller, MADEP
John Duclos, NHDES
Leo Hellested, RIDEM
Peter Marshall, VTDEP
Betsy Devlin, USEPA - OSW
Jeffrey Fowley, USEPA - R1
Ken Rota, USEPA - R1
Ernest Waterman USEPA - R1
William Cass, Director, New England Waste Management Officials Association