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ADDITIONAL ANALYTES FOR HWIR TARGET ANALYTE LIST IN WASTEWATER

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

MEMORANDUM

DATE: November 5, 1993

SUBJECT: Additional Analytes for HWIR Target Analyte List
in Wastewater

FROM: Barry Lesnik, Chemist
Methods Section (5304)

TO: William Morrow
Characteristics Section (5304)

Per your request of November 3, 1993, I have reviewed the six potential HWIR analytes for their analytical suitability and their potential to be found in wastewaters. Paraldehyde, formaldehyde and chloroacetaldehyde can be found and analyzed in wastewater matrices. Appropriate analytical methods for paraldehyde are sample preparation by Method 5031 (Azeotropic Distillation) followed by determination by either method 8015B (GC/FID) or Method 8260 (GC/MS). Formaldehyde can be analyzed by Method 8315 (HPLC). Chloroacetaldehyde has not been tested as a Method 8315 analyte, but I believe that it should be suitable for HPLC determination using this method. High concentrations of chloroacetaldehyde in water result in the formation of an insoluble hemihydrate form of the compound, which precipitates out.

Phosgene is a gas which reacts vigorously with water. Thus, it is highly unlikely to be found in wastewater matrices. Sodium azide and hydrofluoric acid are also highly reactive compounds which are unlikely to be found in wastewater matrices.

If you have any further questions, please call me at 260-7459.