



Project Summary

Modified Method 5 Train and Source Assessment Sampling System Operator's Manual

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Two stack sampling trains, the Modified Method 5 (MM5) train and the Source Assessment Sampling System (SASS) train have been identified as the sampling devices to be used in assessing the Destruction and Removal Efficiency (DRE) of Principal Organic Hazardous Compounds (POHCs) by hazardous waste incinerators. Recognizing the need to establish sampling protocols, this document has been prepared to provide a detailed guide for the use of each of these devices in sampling stack gas effluents from these facilities. Step-by-step procedures for the cleaning, assembly, calibration, use of, and recovery of samples from each device are detailed. Guidelines for the reduction and presentation of data are included.

This Project Summary was developed by EPA's Air and Energy Engineering Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Introduction

In support of the EPA's Hazardous Waste Incineration Program, EPA's Office of Solid Waste (OSW) and the Air and Energy Engineering Research Laboratory (AEERL) recognize the need for sampling and analytical procedures to assess the Destruction and Removal Efficiency (DRE) of the Principal Organic Hazardous Compounds (POHCs) by hazardous waste incineration facilities. The determination of the DRE requires the measurement of POHC concentrations in gaseous effluents from incinerator stacks. Two stack

sampling trains, the Modified Method 5 (MM5) train and the Source Assessment Sampling System (SASS) train, have been identified for the sampling of organic material in incinerator stack gas effluents. This document is a detailed user's guide for operating each of these sampling devices.

Development of the Manual

The user's guide is a start-to-finish handbook for the cleaning, assembly, calibration, use of, and recovery of samples from each sampling device. The sampling preparation instructions include: calculations needed to determine the minimum sample volume to be collected for the MM5 train, and calculations needed to determine the optimum nozzle size and required orifice pressure drop for sampling at near-isokinetic conditions with the SASS train.

The sampling methodology descriptions include sample recovery flow diagrams and example coding schemes to which the user can refer during field operations.

Additional information (e.g., blank data forms for each train, the sorbent resin pre-extraction procedure, and specialized SASS train cleaning procedures) appear in the Appendices.

The manual does not provide recommendations or suggestions for analysis protocols, which are developed for each individual program based on procedures specified in other manuals.

The Finished Manual

This manual is divided into three parts. The first is an overview and comparison of the sampling trains. Design parameters

are described to assist test program personnel in deciding which sampling system is better suited for their program. The second and third parts outline the step-by-step procedures for using the MM5 and SASS trains, respectively.

Conclusions

The sampling procedures and data reduction guidelines needed to determine POHC concentrations in incinerator stack gas effluents are presented in a single document. The data obtained using this handbook will be applicable to the determination of the DREs from hazardous waste incineration facilities.

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The complete report, entitled "Modified Method 5 Train and Source Assessment Sampling System Operator's Manual," (Order No. PB 85-169 878/AS; Cost: \$14.50, subject to change) will be available only from:

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The EPA Project Officer can be contacted at:

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