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**Halogenated-Organic
Containing Wastes
Treatment Technologies**

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POLLUTION TECHNOLOGY REVIEW No. 157

ndc

F5832



Foreword

This book provides information describing alternative technologies to land disposal for halogenated-organic-containing wastes. Emphasis is placed on presenting performance data for proven technologies; however, information dealing with emerging technologies is also presented.

The halogenated-organic constituents covered are 78 RCRA-listed, halogenated-organic compounds not classified as solvents, dioxins, or polychlorinated biphenyls. An estimated 24.2 million gallons of these wastes were generated in 1981. Of these, 3.2 million gallons were land disposed. The Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments (HSWA) of 1984, prohibits the continued placement of these wastes in or on the land (with certain exceptions). Treatment alternatives, thus, must be found for those wastes exceeding 1,000 ppm of halogenated organics.

The treatment technologies discussed in the book include biological treatment as well as physical, chemical and thermal treatments. Each treatment system, plus solidification/fixation processes for residuals, is described as follows: (1) process description, including design and operating parameters, pretreatment requirements, and post-treatment of residuals; (2) performance data available from bench, pilot and full-scale studies; (3) cost of treatment; and (4) current status of the process.

Approaches to identifying and selecting appropriate technologies for specific halogenated-organic-compound-bearing waste streams are also covered.

The information in the book is from *Technical Resource Document: Treatment Technologies for Halogenated Organic Containing Wastes*, prepared by N. Surprenant, T. Nunno, M. Kravett, and M. Breton of Alliance Technologies Corporation for the U.S. Environmental Protection Agency, December 1987.

The table of contents is organized in such a way as to serve as a subject index and provides easy access to the information contained in the book.

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1. Introduction

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Section 3004 of the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), prohibits the continued placement of RCRA-regulated hazardous wastes in or on the land, including placement in landfills, land treatment areas, waste piles, and surface impoundments (with certain exceptions for surface impoundments used for the treatment of hazardous wastes). The amendments specify dates by which these prohibitions are to take effect for specific hazardous wastes as shown in Table 1.1. After the effective date of a prohibition, wastes may only be land disposed if: (1) they comply with treatment standards promulgated by the Agency that minimize short-term and long-term threats arising from land disposal; or (2) the Agency has approved a site-specific petition demonstrating, to a reasonable degree of certainty, that there will be no migration from the disposal unit for as long as the waste remains hazardous. In addition, the statute authorizes the Agency to extend the effective dates of prohibitions for up to 2 years nationwide if it is determined that there is insufficient alternative treatment, recovery or disposal capacity.

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PURPOSE

This Technical Resource Document (TRD) for halogenated organic wastes identifies recovery and treatment alternatives to land disposal for these wastes and provides performance data and other technical information needed to assess potentially applicable alternatives. This document is one of a series of documents designed to assist regulatory agency and industrial personnel in meeting the land disposal bans promulgated by the 1984 RCRA Amendments.