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**TREATABILITY MANUAL**  
**VOLUME I. Treatability Data**

**U.S. ENVIRONMENTAL PROTECTION AGENCY**  
**Washington, D.C.**

(A copy of the manual is available  
upon request)

June 1980

## PREFACE

In January, 1979, EPA's Office of Enforcement and Office of Water and Waste Management requested help from the Office of Research and Development in compiling wastewater treatment performance data into a "Treatability Manual". This Manual was to be used in developing NPDES permit limitations for facilities which, at the time of permit issuance, were not fully covered by promulgated, industry-specific effluent guidelines authorized under Sections 301, 304, 306, 307, and 501 of the CWA.

A planning group was set up to manage the treatability program under the chairmanship of William Cawley, Deputy Director, Industrial Environmental Research Laboratory - Cincinnati. The group includes participants from: 1) the Industrial Environmental Research Laboratory - Cincinnati, 2) Effluent Guidelines Division, Office of Water and Waste Management; 3) Permits Division, Office of Enforcement; 4) Municipal Environmental Research Laboratory - Cincinnati; 5) R. S. Kerr, Environmental Research Laboratory - Ada; 6) Industrial Environmental Research Laboratory - Research Triangle Park; 7) Monsanto Research Corporation; and 8) Aerospace Corporation.

The objectives of the treatability program are:

- To provide readily accessible data and information on treatability of industrial and municipal waste streams for use by NPDES permit writers, enforcement personnel, and by industrial or municipal permit holders;
- To provide a basis for research planning by identifying gaps in knowledge of the treatability of certain pollutants and wastestreams;
- To set up a system allowing rapid response to program office requirements for generation of treatability data.

The primary output from this program is a five volume Treatability Manual. The individual volumes are named as follows:

Volume I - Treatability Data  
Volume II - Industrial Descriptions  
Volume III - Technologies  
Volume IV - Cost Estimating  
Volume V - Summary

#### ACKNOWLEDGMENT

The sheer size and comprehensiveness of this document should make it obvious that this had to be the effort of a large number of people. It is the collection of contributions from throughout the Environmental Protection Agency, particularly from the Office of Enforcement, Office of Water and Hazardous Materials and the Office of Research and Development. Equally important to its success were the efforts of the employees of the Aerospace Corporation and the Monsanto Research Corporation who participated in this operation.

No list of the names of everyone who took part in the effort would in any way adequately acknowledge the effort which those involved in preparing this Manual made toward its development. Equally difficult would be an attempt to name the people who have made the most significant contributions both because there have been too many and because it would be impossible to adequately define the term "significant." This document exists because of major contributions by the contractor's staff and by members of the following:

Effluent Guidelines Division  
Office of Water and Waste Management

Permits Division  
Office of Water Enforcement

National Enforcement Investigation Center  
Office of Enforcement

Center for Environmental Research Information

Municipal Environmental Research Laboratory

Robert S. Kerr Environmental Research Laboratory

Industrial Environmental Research Laboratory  
Research Triangle Park, NC

Industrial Environmental Research Laboratory  
Cincinnati, OH  
Office of Research and Development

The purpose of this acknowledgement is to express my thanks as Committee Chairman and the thanks of the Agency to the Committee Members and others who contributed to the success of this effort.

  
William A. Cawley, Deputy Director, IRL-Ci  
Chairman, Treatability Coordination Committee