

COMMISSION OF THE EUROPEAN COMMUNITIES
Directorate-General for Science, Research and Development
Environment and Waste Recycling

WATER POLLUTION RESEARCH REPORT 18

LABORATORY TEST FOR SIMULATION OF WATER TREATMENT PROCESSES

OFFICE INTERNATIONAL DE L'EAU
DIRECTION DE LA DOCUMENTATION
ET DES DONNÉES
Rue Edouard Chamberland
87065 LIMOGES CEDEX
Tél. 55.11.47.80
Télex 590 357 FONDEAU F

Proceedings of a Workshop organised within the framework of Working Party 4 of the Concerted Action 'Organic Micropollutants in the Aquatic Environment', COST 641, held at JRC, Ispra, 23-24 November 1989

Edited by B. N. Jacobsen, H. Muntau and G. Angeletti

F 2081

CONTENTS

	Page
Summary	3
Achievements and developments of the COST 641 project (G. Angeletti, CEC, DG XII)	7
Activities of Working party 4 and aims of the workshop (B. N. Jacobsen, Water Quality Institute (DK))	13
Session 1: Chemical processes Chairman: O. Ravera	
Elimination of micropollutants by ozone: simulation with an expert system (O. Wable, Lyonnaise des Eaux (F))	15
Reductive transformations of halogenated hydrocarbons in anoxic heterolytic systems: rates, mechanisms, products and structure-activity relationships (W. Peijnenburg, National Institute of Public Health and Environmental Protection (NL))	32
Session 2: Sorption and filtration processes Chairman: E. Gjessing	
Accelerated column test and mathematical modelling as alternatives for pilot plant experiments in the prediction of activated carbon filter performance (R. Nieuwejaers, Free Univ. of Brussels (B))	37
Laboratory scale equipment for flocculation and separation in chemical water treatment (Jürgen Landgrebe, Heinz Bernhardt, Andreas Grohmann and Helmut Schell)	65
Sorption of organic micropollutants to chemically modified peat (E. Gjessing, Norwegian Inst. Water Research (N))	82
Toxic organics removal from municipal wastewater by integrated activated-carbon/activated-sludge processes (A. Lopez, Water Research Institute (I))	88
Session 3: Biological degradation processes Chairman: B. N. Jacobsen	
Laboratory test methods for determining the bio-degradability of organic chemicals in the aquatic environment (N. S. Battersby, Shell Research Ltd. (UK))	96

Experiences and data from OECD — activated sludge simulation tests (H.A. Painter, ex. Water Research Centre (UK))	113
Experimental methods and results from biodegradation studies of selected volatile compounds (H. Scholz-Muramatsu, Univ. of Stuttgart (FRG))	139
Kinetic measurements on the Phenol biodegradation and its inhibition. Structure activity relationships (P. Beltrame, Univ. of Milan (I))	156
Test systems for the inhibition of biodegradation in treatment plants (P. Lindgaard-Jørgensen, Water Quality Institute (DK))	169
Novel techniques for quantification of specific biomass fractions (M. Laake, Norwegian Inst. Water Research (N))	180
General session	
Strategies of organic micropollutant elimination: State-of-the art and identification of needs (F. Korte, Tech. Univ. of Munich (FRG))	193
List of participants	208