



ELSEVIER

Journal of Chromatography A, 774 (1997) 1

JOURNAL OF
CHROMATOGRAPHY A

Foreword

This volume concludes our series of Special Issues on *Chromatography and Electrophoresis in Environmental Analysis*. Under the catch-all title *Toxic Waste* we have collected review articles and original research papers on the large variety of pollutants with which mankind has managed to foul its own nest. These substances go from the atmosphere and waste water into sediments and landfills and eventually enter living organisms. Although these processes are not new, the exponential growth of the industrial production of harmful chemicals has raised the pollution problem to a level of popular concern. Government regulations are attempting to stem the tide of rising levels of toxic materials in our environment, but allowable concentrations must be ascertained by reliable chemical analyses.

Chromatography and related separation methods are now at the forefront of the battle against the encroaching treat of environmental pollution. To solve the analytical problems posed by the occurrence of minute quantities of analytes in heterogeneous samples chemists have not simply dipped into the large reservoir of known separation methods but they have had to devise new methods of collecting representative samples and treating them by new techniques before they could be analyzed by conventional procedures. These efforts have resulted not only in suitable methods of environmental analysis but they have also contributed to our armamentarium of analytical know-how.

One of the areas of chemical analysis that has greatly profited from the popular support of en-

vironmental analysis is the combination of instrumental methods, known to most of us as "hyphenated techniques". This term, originally the jargon of some glib talker, is not meant to designate such truly hyphenated terms as thin-layer chromatography, ion-exchange chromatography, or high-performance liquid chromatography but such combinations as gas chromatography/tandem mass spectrometry or high-performance liquid chromatography/photodiode-array detection, which are supposed to be hyphenated as gas chromatography-tandem mass spectrometry and high-performance liquid chromatography-photodiode-array detection, respectively.

As the articles in our collection show, chemists have been making excellent use of the availability of modern instrumentation to solve analytical problems of great practical importance and scientific interest. Examples of the great variety of problem-solving methodology are the detection of heavy metals in sewage sludge, the identification of petroleum products in oil spills, the identification of warfare agents in decontamination solutions, and the speciation of organotin compounds and other toxic waste in marine organisms as well as the enantio-selective determination of chiral organochlorine compounds in various life forms. While pinpointing the sources of pollution alone will not solve our environmental problems, it is a necessary step in the direction of abating them.

Orinda, CA, USA

Erich Heftmann