Environmental Engineering and Management Journal *August 2014, Vol.13, No. 8, 2129-2130*
http://omicron.ch.tuiasi.ro/EEMJ/

"Gheorghe Asachi" Technical University of Iasi, Romania

Book Review

THE MAK-COLLECTION FOR OCCUPATIONAL HEALTH AND SAFETY. PART III: AIR MONITORING METHODS

Harun Parlar (Editor)

WILEY - VCH Verlag GmbH&Co, KGaA, Weinheim, 2007
ISNB-13: 978-3-527-31601-4, XV + 165 pages

The tenth volume of the series „Analyses of Hazardous Substances in Air" is the second one published under the new title "The MAK-Collection for Occupational Health and Safety, Part III, Air monitoring Methods". This volume extends the range of air monitoring methods by ten additional procedures.

The first two chapters deal with the gas chromatography/mass spectrometry analysis and molecular spectroscopy in the ultraviolet and visible range. Mass spectrometry is largely recognized as a very powerful method for the analysis of mixtures of organic compounds. In this respect, chapter one discusses the chromatography/mass spectrometry analysis. The ionization methods, inlet and vacuum systems, analysers, and detection systems are presented. Examples as analysis of solvents by quadrupole mass spectrometry in full scan mode, and analysis of polychlorinated biphenyls by ion trap mass spectrometry are illustrated. The second chapter deals with molecular spectroscopy in the ultraviolet and visible range. The principle of molecular spectroscopy and the design of a spectrophotometer are presented. Samples handling and measurement and the main factors influencing the position and intensity of UV/VIS bands (effect of solvent, pH and temperature) are also discussed.

The main part of the book deals with analytical methods. The volume contains two important methods for the determination of diesel particulate matter which can be used for monitoring its concentration in work areas. Other two methods for the determination of dinitrogen oxide are included, and a method for acrylonitrile as well. This volume furthermore contains methods for determination of methoxyacetic acid, cobalt and its compounds, and a procedure for amines.

This volume provides detailed, ready-to-use protocols for air monitoring methods, developed to monitor concentrations of occupational toxicants at the workplace, while they can also be used for environmental monitoring. All the methods are reliable, reproducible, adhere to quality assurance standards and cover all the required steps from sampling to the interpretation of results. This includes data on precision, accuracy, and detection limit, calibration procedures as well as potential sources of systematic errors. In addition, the advantages and disadvantages of each method are clearly outlined.

About the author:
Prof.dr. Harun Parlar is head of the working group "Air Analyses" of the Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area. He is Chief Editor of the scientific journals Advances in Food Science (AFS) and Fresenius Environmental Bulletin (FEB). His scientific work led to more then 270 publications.

Dan Gavrilescu
Department of Natural and Synthetic Polymers
Faculty of Chemical Engineering and Environmental Protection
"Gheorghe Asachi" Technical University of Iasi, Romania