

analytical chemists and senior management, and also in training programs, classrooms and laboratories.

There are 21 chapters in this book. In the first six chapters, it just is an introduction of ICP-MS. It discusses the principle of the technique, sample preparation, plasma source and the interface region and ion focusing. The following four chapters focus on the heart of the system—Mass analyzers, which is the region of the ICP-MS that separates the ion according to their mass-to-charge ratio. There are four kinds of technology being described: quadrupole technology, double-focusing magnetic sector technology, time of flight technology and collision/reaction cell technology. These technologies are differentiated by the mass separation device, but they all have one common goal and that is to separate the ions of interest from all other nonanalyte, matrix, solvent, and argon-based ions.

From chapter 12 to chapter 17, it describes the detail of ICP-MS when it is being operated, and the routine maintenance issues associated with the technique. In the remaining chapters, it discusses the ways in which ICP-MS is applied in the real world and gives the selection criteria when evaluating commercial use. It also compares ICP-MS to other techniques in terms of detection capability dynamic range, interference, sample throughput, precision speed of analysis and running cost. So that it can enable the user evaluate the benefits of ICP-MS against other atomic spectroscopy instrumentation methods.

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C. Baillie, editor. Green composites: Polymer composites and the environment (2004, Woodhead Publishing, CRC Press, North America, USA) (xii + 308 pp., £115.00, ISBN: 1-85573-739-6)

Life cycle assessment is important at every stage of a product's life, from synthesis through to disposal, and a sustainable society needs environmentally safe materials and processing methods. In this way, life cycle assessment is defined as 'an objective process or activity by identifying energy and materials used and wastes released to the environment, and to evaluate the implements.'

Every day the production of chemical products, faster machines, bigger toys, etc. is higher without due consideration

of the effects on the environment or on people. This is a real irresponsibility laid to the charge of humans. Due to this consideration of the effects on the environment, a growing movement of scientists and engineers have realised that they need to take responsibility for the outcome of their work. Over the past 10 years, they decided to change the direction of their research and increase the number of researchers working in this area. After all this time, it has been considered convenient to reflect on the progress and purpose of the work to make sure that we are in fact doing what we say we would like to do.

Green composites: Polymer composites and the environment is based on green composites, which are defined as composites that are designed with the lowest environmental 'footprint' possible. Furthermore, the book is focused on the fibre-reinforced polymer composites currently in use, and is dedicated to minimising the environmental impact of polymer composite production.

First of all the book starts with the choice of materials that iterates with the design and function or the application (chapter 2), and the factors affecting the life cycle analysis (chapter 3). There are different possible fibres, which can be used as reinforcement, as well as potential polymer matrices. In this latter category thermoplastics may be considered as a source which may be recycled, or as a non virgin source: composites are a means of upgrading recycled polymers as well as thermosets which need to be re-used or biodegradable thermosets which degrade. Polymers derived from natural sources are also covered. Finally, the book looks at the re use, recovery and recycling of the composites that have been made.

Green composites: Polymer composites and the environment is an essential guide for agricultural crop producers, government agricultural departments, automotive companies, composites producers and materials scientist, who are dedicated to the practice and promotion of eco-friendly processes.

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E. Riande and R. Díaz-Calleja, Electrical Properties of Polymers, Marcel Dekker, Inc., New York, USA 2004, (xix + 630 pp., £111.00, ISBN 0-8247-5346-1).

The characteristic of polymers that have length and molecular scales larger than atomic size gives them unusual