

Spray Drying Handbook. By K. Masters, John Wiley & Son, New York, 1985. xiii + 696 pp. ISBN 0-582-04278-X.

Products are more conveniently and safely transported and handled as dried products. Spray drying is one of the more popular, if not the most popular, of available drying techniques. It involves the atomization of feed (either as a solution, suspension or paste) into a spray and contact between spray and a hot drying medium transforms the feed into dried particulate forms (agglomerates, powder or granules). Spray drying is used in the food industry for the preparation of readily dry mixed and reconstituted products or on raw materials. Carbohydrates, e.g. starch and its derivatives, are often spray dried. Since carbohydrates most often find application as functional ingredients in most foodstuff and non-food applications, scientists involved in carbohydrates should have knowledge on drying techniques, e.g. spray drying. Such knowledge could lead to the improvement or development of existing, or novel 'functionalities' of carbohydrates and their derivatives and consequently, to new applications.

An excellent reference book on spray drying comes in the form of the *Spray Drying Handbook* by K. Masters. It contains anything and everything regarding this technique; its definitions and basic principles, the whole process from atomization, spray-air contact, the drying stage to separation and recovery of the dried product, the control and management of the spray drying operation, equipments used; and finally, its application in a wide range of industries.

Presentation of the subject is in a very readable style, aided with good illustrations and diagrams, a chapter on nomenclature and an index. Practicing engineers as well as chemical and mechanical engineering students, not to mention engineers or scientists involved in areas such as food technology, application chemists, biotechnologists etc., will find the valuable contents easy to understand.

Universities, relevant industries and practicing engineers should include this book on their library shelves. Also it is highly recommended as a reference book for engineering students and students/scientists involved in the application of spray dried products. For those who possess the earlier edition (1979), this fully up-dated edition, featuring newly developed types of spray drying in response to industrial demands for greater efficiency, improved product quality, safer operation,

environment friendly etc., — is also highly recommended for up-to-date reading.

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New Fibres. By T. Hongu and G. O. Phillips, Ellis Horwood Ltd, Chichester, 1990. xii + 221 pp. ISBN 0-13-613266-9.

For more than 4000 years, man has made use of natural fibres, but it is only in the last century that he has begun to develop synthetic fibres. This book sets out to give an overview of developments in the synthetic 'new' fibre field since Count Chardonnet invented the first artificial silk.

By the 1950s, artificial fibres for example, polyester and nylon were being produced that exactly copied natural fibres, thus providing an alternative to them. During the mid-1980s a new development occurred, the fibres being produced were not only an alternative to a natural fibre, but they were specific improvements, designed for specific tasks, these synthetic fibres led to the development of the so called 'super fibres' (a fibre with a modulus greater than 55 GPa and a tenacity of 2.5 GPa).

Super fibres far outperform their natural counterparts, and it is these fibres that the book deals with in the greatest detail. The book describes the search for and development of fibres with greater and greater strength. These include Aramid (aromatic polyamide) fibre, which is the subject of a great race between rival companies and nations. This is described in detail as an example of the big business represented by new fibre development. Other fibres covered in this section include Polyacetal fibre and Strong Vinyon RM.

Another major field of development is the search for fibres with a fineness and texture that appeal to human touch, for use in clothing. The strength of the fibre for clothing is irrelevant if the item is uncomfortable or irritating to wear. The book discusses these new developments, along with developments which can actually improve clothing for the user. It shows fibres that are ceramic-blended, and have heat insulating properties. There are fibres that are perfumed, that change colour in light or temperature and even fibres which store solar energy. It leaves one with the impression that there are more exciting developments on the way.