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European Journal of Pharmaceutics and Biopharmaceutics 44 (1997) 219–222

European
Journal of
Pharmaceutics and
Biopharmaceutics

Book reviews

Aqueous Polymeric Coatings For Pharmaceutical Dosage Forms, 2nd Edition (Drugs and the Pharmaceutical Sciences (Series/79))

J.W. McGinity (Editor), Marcel Dekker, New York; 1997, \$185.00. ISBN 0-8247-9773-6

The problems associated with the organic solvent-based film coating and the advantages of the aqueous-based polymeric systems have resulted in the first edition of this book in 1989. During the last years a lot of new products using aqueous-based coatings were formulated and numerous reformulations have taken place to replace organic-based film coatings. Thus, additional experiences were gained. Furthermore, new aqueous dispersions have been developed recently or are increasingly in use now, such as new polymers for enteric coatings, biodegradable polymers, silicone dispersions and cellulose esters. The characterization of film properties has also been expanded in the last years, especially in the field of stress-strain testing. Therefore, it was the right time to launch a second edition.

All nine chapters of the first edition have been revised, more or less enlarged and the references therein expanded. There are seven new chapters in the book. R. Bodmeier et al., wrote an excellent overview on the drug release from pellets coated with Aquacoat®, discussing also the flocculation in the dispersion, the curing process in respect to release stability and the mechanical properties of EC-films. In the subchapter 'Plasticizer' the need of enough time for the uptake of the plasticizer by the polymer particles is stressed. Perhaps, this rather general phenomenon could be better presented in a separate chapter together with time-dependent MFT-values. The pH-dependence of the release from ethylcellulosecoated pellets is discussed in the subchapter 'Surfactants' because the 'wetting hypothesis' is preferred to the 'swelling hypothesis'. M.E. Aulton et al., describe the physical properties of HPMC solutions in respect to film coating. The subchapters 'Thermal gelation' and 'Batch variations' and the discussion of the influence of the solution viscosity on the resulting film properties seem to be especially interesting. A new detailed chapter deals with cellulosic polymers for enteric coatings (S.H.W. Wu et al.). Special emphasis is given to physicochemical properties and film permeabilities. R.C. Rowe discusses the reasons for

defects in aqueous film coated tablets and develops an expert system to omit them. S.E. Frisbee et al. describe the use of biodegradable polymers (mostly polylactic acid) and L.C. Li the application of silicone elastomer as polymeric coating dispersions. The seventh new chapter, written by P.B. O'Donnell and J.W. McGinity, treats the mechanical properties of films from aqueous polymeric dispersions. The most important parameters are tensile strength or puncture strength (at break), work of failure, the respective elongation and the elastic modulus. They are all influenced by the addition of plasticizers and its permanence, moisture content and film preparation.

A lot of information is presented in this book, highly valuable for the pharmaceutical scientist involved in this area. Also most of the enteric coatings are now treated in the second edition. Special problems like the curing of coated products and its influence on release stability are repeatedly discussed. The index comprises about 650 entries, thus the user will find most of the items he is looking for. However, in some cases like MFT or release stability, the index is not very helpful. Some problems have still to be resolved finally, e.g. the importance of the osmotic pressure for the release rate of the coated products and the theoretical basis of its release stability. On the other hand, this could be the impulse for a third edition, together with more updated literature in the various chapters, the latest references are from 1995 at best. To be up-to-date nowadays, the second edition should replace the first edition in the book shelves as soon as possible.

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PII S0939-6411(97)00063-5

Pharmaceutical Powder Compaction Technology (Drugs and The Pharmaceutical Sciences Series/7 1)

Christer Nyström, Göran Alderborn (Editors), 624 pp.; \$185. ISBN 0-8247-9376-5

A comprehensive textbook on this subject has been waited for by many pharmacists in research, teaching,