

Contents

1	Excipient Applications in Formulation Design and Drug Delivery	1
	Ajit S. Narang and Sai HS. Boddu	

Part I Drug-Excipient Interactions and Their Stability Implications

2	Drug Excipient Interactions.....	13
	Ajit S. Narang, Aaron Yamniuk, Limin Zhang, S. Nilgun Comezoglu, Dilbir S. Bindra, Sailesh A. Varia, Michael Doyle and Sherif Badawy	
3	Reactive Impurities in Excipients.....	37
	Yongmei Wu, Jaquan K. Levons, Ajit S. Narang, Krishnaswamy Raghavan and Rao V. Mantri	
4	Reactive Impurities in PEG: A Case Study	67
	Jeffrey N. Hemenway, Thiago C. Carvalho, Rao V. Mantri, Yongmei Wu, Jaquan K. Levons, Ajit S. Narang, Srinivasa R. Paruchuri, Howard J. Stamato and Sailesh A. Varia	
5	Impact of Excipient Interactions on Solid Dosage Form Stability	93
	Ajit S. Narang, Divyakant Desai and Sherif Badawy	
6	Protein—Surfactant Interactions at the Air-Water Interface.....	139
	Alfredo R. Narváez and Shyam V. Vaidya	

Part II Impact of Excipients on Drug Release and Bioavailability

7	Smart Polymers in Drug Delivery	169
	Sushant Lakkadwala, Sanko Nguyen, Jerry Nesamony, Ajit S. Narang, and Sai HS. Boddu	
8	Tailoring the Release of Drugs Using Excipients	201
	Chandrasekhar Garapati, Himanshu Gupta, Jwala Renukuntla and Sai HS. Boddu	

9 Solid Lipid Excipients as Matrix Agents for Sustained Drug Delivery	237
Yvonne Rosiaux, Vincent Jannin, Sophie Hughes and Delphine Marchaud	
10 Impact of Excipient Interactions on Drug Bioavailability from Solid Dosage Forms	273
Ravikiran Panakanti and Ajit S. Narang	
11 Biopolymers in Medical Implants.....	311
Rachana Bhatt and Michael Jaffe	
Part III Excipients Selection and Formulation Design	
12 Selection of Excipients Based on the Biopharmaceutics Classification System of Drugs	351
Gabriella Baki, Sachin Chaudhari, Ripal Gaudana and Sai HS. Boddu	
13 Excipient Selection in Oral Solid Dosage Formulations Containing Moisture Sensitive Drugs	385
Ali R. Rajabi-Siahboomi, Marina Levina, Sampada B. Upadhye and Jason Teckoe	
14 Silicone Excipients in Pharmaceutical Drug Delivery Applications....	423
Gerald K. Schalau and Hyder A. Aliyar	
15 Excipients That Facilitate Amorphous Drug Stabilization	463
Yangjie Wei, Bhaswati Dattachowdhury, Kiran K. Vangara, Niraja Patel, Kenneth Alexander and Sai HS. Boddu	
16 Excipients in Pediatric Formulations: Biopharmaceutical and Toxicological Considerations	497
Kiran K. Vangara and Venkata Kashyap Yellepeddi	
17 Role of Innovator Product Characterization in Generic Product Development	521
Bhushan Munjal, Vishal Koradia, Sai HS. Boddu and Arvind K. Bansal	
Part IV Excipient Functionality and Drug Delivery Applications	
18 Addressing Excipient Variability in Formulation Design and Drug Development	541
Ajit S. Narang	

19 Improved Polymer Functionality by Cross-linking with Glutaraldehyde to Achieve Controlled Drug Release	569
John Rojas	
20 Excipient Design by Co-Processing for Direct Compression Applications	589
John Rojas	
21 Excipients and Non-medicinal Agents as Active Pharmaceutical Ingredients	613
Sai HS. Boddu, Jwala Renukuntla, Alan Rega and Kenneth Alexander	
22 Drug Delivery Applications of Chitosan and its Derivatives	637
Xin Zhang, Liang Li and Shirui Mao	
Index	679

Excipient Applications in Formulation Design and Drug
Delivery

Narang, A.S.; Boddu, S.H.S. (Eds.)

2015, XL, 681 p. 161 illus., 75 illus. in color., Hardcover

ISBN: 978-3-319-20205-1