Foreword	p. 7
Acknowledgments	p. 9
Introduction	p. 11
Polymers, Plastics, and Elastomers	p. 15
An Introduction to Polymers	p. 17
Polymers by Origin	p. 17
Polymerization Processes	p. 18
Polymers by Monomer Configuration	p. 21
Molecular Structure	p. 25
Molecular Forces	p. 26
Polymer Chains in Thermoplastics, Thermosets, and Elastomers	p. 28
History and Types of Plastics	p. 33
History of Plastics	p. 33
Types of Plastics	p. 38
Elastomers: Natural and Synthetic Rubbers and Thermoplastic Elastomers	p. 54
History of Natural and Synthetic Rubbers	p. 54
Types of Natural Rubber	p. 57
Types of Synthetic Rubber and Thermoplastic Elastomers	p. 62
Properties of Plastics and Elastomers	p. 67
Mechanical Properties	p. 69
Physical Properties	p. 81
Thermal Properties	p. 91
Optical Properties	p. 94
Manufacturing of Plastics and Elastomers	p. 97
Additives	p. 97
Processing Plastics and Elastomers	p. 101
Additive Manufacturing	p. 114
Plastics Recycling	p. 119
Conservation Case Studies	p. 123
Repairing Polyvinyl Chloride Film	p. 124
Consolidating Polypropylene Fibers	p. 133
Flattening Cellulose Acetate Sheets	p. 141
Adhering and Loss Compensation of Hard Polyurethane Elastomer	p. 150
Issues of a Natural Rubber Installation	p. 157
Adhering Polyurethane Elastomer	p. 162
Fact Sheets of Plastics and Elastomers	p. 169
Natural Polymers	p. 172
Thermoplastics and Biodegradable Thermoplastics	p. 180
Thermosets	p. 242
Elastomers	p. 254

Types of Plastics	p. 284
Conferences, Research Projects, and Related Publications	p. 286
Terms in Translation	p. 294
Plastics Nomenclature: ISO and ASTM Standards	p. 298
Glossary	p. 302
References	p. 308
Contributors	p. 312
Illustration Credits	p. 313
Index	p. 314

Table of Contents provided by Blackwell's Book Services and R.R. Bowker. Used with permission.