Contents

Contributors ix
Preface xi

1 Environmentally Benign Manufacturing 1
   William E. Biles

2 Design for the Environment 29
   Jack Jeswiet

3 Organization, Management, and Improvement of Manufacturing Systems 45
   Keith M. Gardiner

4 Manufacturing Systems Evaluation 79
   Walter W. Olson

5 Prevention of Metalworking Fluid Pollution: Environmentally Conscious Manufacturing at the Machine Tool 95
   Steven J. Skerlos

6 Metal Finishing and Electroplating 123
   Timothy C. Lindsey

7 Air Quality in Manufacturing 145
   John W. Sutherland, Donna J. Michalek, and Julio L. Rivera

8 Environmentally Conscious Electronic Manufacturing 179
   Richard Ciocci

9 Disassembly for End-of-life Electromechanical Products 211
   Hong C. Zhang, Liu Zhifeng, Gao Yang, and Chen Qing

10 Industrial Energy Efficiency 265
    Bhaskaran Gopalakrishnan, Deepak P. Gupta, Yogesh Mardiker, and Subodh Chaudhari

11 Industrial Environmental Compliance Regulations 295
    Thomas J. Blewett and Jack Annis

Index 325