

Contents

Part I. Introduction

CHAPTER

1. Historical Review	3
2. Definition of Terms	9

Part II. Mode of Action

3. Principles of Antimicrobial Activity	15
4. Bacterial Resistance and Dynamics of Antibacterial Activity	32
5. Physical Factors Influencing the Activity of Antimicrobial Agents	44
6. Thermal Destruction of Microorganisms	63

Part III. Methods of Testing

7. Introduction to Antimicrobial Testing Methods	109
8. Methods of Testing for Sterility and Efficacy of Sterilizers. Sporicides and Sterilizing Processes	114
9. Methods of Testing Disinfectants	133
10. Methods of Testing Sanitizers and Bacteriostatic Substances.	159
11. Methods of Testing Antiseptics	179
12. Methods of Testing Virucides	194
13. Methods of Testing Fungicides	207
14. Methods of Testing Protozoacides and Anthelmintics	218
15. Safety Evaluations on Antimicrobial Chemicals	221

Part IV. Antiseptics and Disinfectants

16. Alcohols	237
17. Acid-Anionic Surfactant Sanitizers	253
18. The Bis-Phenols	257
✓ 19. Chlorine and Chlorine Compounds	278
✓ 20. Fungistatic and Fungicidal Compounds	305
21. Heavy Metals Other than Mercury and Silver	321
22. Iodine	329
23. Mercurials—Inorganic and Organic	348
24. Oligodynamic Metals	372
25. Phenolic Compounds	401

CHAPTER

26. Quaternary Ammonium Surface-Active Disinfectants . . .	430
27. The Salicylanilides and Carbanilides	453
28. Silver Compounds	469
29. Virucidal Agents	476
30. Antiprotozoan and Anthelmintic Compounds	489
31. Mycobactericidal Agents	504

Part V. Surgical and Hospital Disinfection

32. Chemical Disinfection of Medical and Surgical Materials .	517
33. Surgical Antiseptics	532
34. Control of Biological Agents as Contaminants in Microbio- logical Laboratories	543

Part VI. Antimicrobial Preservatives and Protectants

35. Cosmetic Preservatives	555
36. Antimicrobial Preservatives in Pharmaceuticals	566
37. Preservatives for Industrial Products	575
38. Antimicrobial Agents Used in Crop Protection	616
39. Food Preservatives	632

Part VII. Chemical and Physical Sterilization

40. Disinfection of Drinking Water, Swimming Pool Water and Treated Sewage Effluents	655
41. Gaseous Sterilization	669
42. Spacecraft Sterilization.	686
43. Sterilization by Heat	703
44. The Destruction of Microorganisms by Ionizing Irradiation .	741
45. Sterilization by Ultraviolet Radiations	761
46. Sterilization Filtration	778
Index	793