

## TABLE OF CONTENTS

<b>SECTION I</b>	
<i>Introduction</i>	1
<b>SECTION II</b>	
<i>Principles of Biosafety</i>	8
<b>SECTION III</b>	
<i>Laboratory Biosafety Level Criteria</i> . . . . .	17
Table 1. Summary of Recommended Biosafety Levels for Infectious Agents. . . . .	52
<b>SECTION IV</b>	
<i>Vertebrate Animal Biosafety Level Criteria</i> . . . . .	53
Table 1. Summary of Recommended Biosafety Levels for Activities in Which Experimentally or Naturally Infected Vertebrate Animals Are Used	75
<b>SECTION V</b>	
<i>Risk Assessment</i>	76
<b>SECTION VI</b>	
<i>Recommended Biosafety Levels for Infectious Agents     and Infected Animals</i> . . . . .	84
<b>SECTION VII</b>	
<i>Agent Summary Statements</i> . . . . .	88
Section VII-A: Bacterial Agents . . . . .	88
Section VII-B: Fungal Agents . . . . .	118
Section VII-C: Parasitic Agents . . . . .	127
Section VII-D: Prions . . . . .	134
Section VII-E: Rickettsial Agents . . . . .	148
Section VII-F: Viral Agents (other than arboviruses)	153
Section VII-G: Arboviruses and Related	
Zoonotic Viruses . . . . .	183
Arboviruses Assigned to Biosafety Level 2 . . . . .	183
Table 1. Arboviruses and Arenaviruses Assigned to Biosafety Level 2 . . . . .	186

Table 2. Vaccine Strains of BSL-3/4 Viruses Which May Be Handled at Biosafety Level-2 .....	189
Arboviruses and Arenaviruses Assigned to Biosafety Level 3 .....	189
Table 3. Arboviruses and Certain Other Viruses Assigned to Biosafety Level 3 (on the basis of insufficient experience) .....	193
Table 4. Arboviruses and Certain Other Viruses Assigned to Biosafety Level 3 .....	194
Arboviruses, Arenaviruses, and Filoviruses Assigned to Biosafety Level 4 .....	196
Table 5. Arboviruses, Arenaviruses and Filoviruses Assigned to Biosafety Level 4 ..	197

## **APPENDIX A**

<i>Primary Containment: Biological Safety Cabinets</i> .....	200
Table 1. Comparison of Biological Safety Cabinets .....	205
Figure 1. Class I Biological Safety Cabinet .....	206
Figure 2a. Class II, Type A Biological Safety Cabinet .....	207
Figure 2b. Class II, Type B1 Biological Safety Cabinet .....	208
Figure 2c. Class II, Type B2 Biological Safety Cabinet .....	209
Figure 2d. Table-top Model .....	210
Figure 3. Class III Biological Safety Cabinet .....	211

## **APPENDIX B**

<i>Immunoprophylaxis</i> .....	212
--------------------------------	-----

## **APPENDIX C**

<i>Transportation and Transfer of Biological Agents</i> .....	214
Figure 1. <i>Packing and Labeling of Infectious Substances</i> .....	219
Figure 2. <i>Packing and Labeling of Clinical Specimens</i> .....	219

## **APPENDIX D**

<i>Restricted Animal Pathogens</i> .....	220
--	-----

<b>APPENDIX E</b>	
<i>Resources for Information</i>	
<b>APPENDIX F</b>	
<i>Laboratory Security and Emergency Response for Microbiological and Biomedical Laboratories . . . . .</i>	224
<b>APPENDIX G</b>	
<i>Integrated Pest Management . . . . .</i>	230
<b>APPENDIX H</b>	
<i>Working With Human and Other Primate Cells and Tissues . . . . .</i>	234
<b>APPENDIX I</b>	
<i>Guidelines for Work With Toxins of Biological Origin . . .</i>	237
<b>INDEX</b>	
<i>Index</i>	