

# Contents

## I. Chapters of general nature

1) How to handle biological specimens . . . . .	1
2) Alternative specimens . . . . .	9
3) Pitfalls and cautions in analysis of drugs and poisons. . . . .	17
4) Pretreatments of human specimens . . . . .	25
5) Detection methods . . . . .	33
6) A computer system for diagnosis of causative drugs and poisons developed by the Japan Poison Information Center (Tokyo) . . . . .	45
7) Practical use of the poison-net developed by the Japan Poison Information Network (Hiroshima) . . . . .	51
8) Problems in toxin analysis in emergency medicine . . . . .	59
9) Analyses of chemical warfare agents and their related compounds. . . . .	69

## II. Chapters on specific toxins

<i>1. Volatile compounds</i>	
1) Carbon monoxide . . . . .	91
2) Hydrogen sulfide and its metabolite. . . . .	101
3) Cyanide. . . . .	113
4) Methanol and formic acid . . . . .	123
5) Ethanol . . . . .	135
6) Chloroform and dichloromethane. . . . .	143
7) Toluene, benzene, xylene and styrene . . . . .	149
8) Alkyl nitrites . . . . .	153
9) Components of gasoline and kerosene . . . . .	159
<i>2. Controlled drugs</i>	
1) Amphetamines and their metabolites . . . . .	171
2) Cannabinoids and their metabolites. . . . .	187
3) Morphine and its analogues . . . . .	195
4) Cocaine and its metabolites . . . . .	207
5) Pentazocine . . . . .	219
6) Lysergic acid diethylamide (LSD) . . . . .	225

7) 3,4-Methylenedioxyamphetamines . . . . .	229
8) Phencyclidine . . . . .	241
9) $\gamma$ -Hydroxybutyric acid . . . . .	247
 3. <i>Psychopharmaceuticals and hypnotics</i>	
1) Phenothiazines . . . . .	255
2) Butyrophenones . . . . .	263
3) Tricyclic and tetracyclic antidepressants . . . . .	271
4) Benzodiazepines . . . . .	283
5) Bromisovalum . . . . .	293
6) Barbiturates . . . . .	301
 4. <i>General drugs</i>	
1) Diphenylmethane antihistaminics . . . . .	315
2) Propionic acid derivative analgesic-antipyretics . . . . .	325
3) Acetaminophen (paracetamol) . . . . .	335
4) Acetylsalicylic acid . . . . .	343
5) Antiepileptics . . . . .	351
6) Muscle relaxants . . . . .	359
7) $\beta$ -Blockers . . . . .	369
8) Local anaesthetics . . . . .	377
9) Salicylic acid . . . . .	391
10) $\beta$ -Lactam antibiotics . . . . .	395
 5. <i>Chemicals of daily necessities</i>	
1) Hypochlorite . . . . .	403
2) Benzalkonium chlorides . . . . .	407
3) Hair dyes . . . . .	415
4) Permethrin . . . . .	425
5) Boric acid . . . . .	431
6) Naphthalene . . . . .	437
7) <i>p</i> -Dichlorobenzene . . . . .	443
8) Ethylene glycol . . . . .	449
 6. <i>Natural toxins and alkaloids</i>	
1) Aconite toxins . . . . .	455
2) Mushroom toxins . . . . .	469
3) Tetrodotoxin . . . . .	481
4) Methylxanthine derivatives . . . . .	491
5) Nicotine and cotinine . . . . .	499
6) Tropane alkaloids . . . . .	509
7) Oleander toxins . . . . .	519
 7. <i>Pesticides</i>	
1) Simultaneous analysis of pesticides by GC/MS . . . . .	527
2) Organophosphorus pesticides . . . . .	535

3) Glufosinate and glyphosate . . . . .	545
4) Carbamate pesticides . . . . .	559
5) Paraquat and diquat . . . . .	571
6) Cresol . . . . .	581
7) Diazine and triazine herbicides . . . . .	591
8) Coumarin rodenticides . . . . .	599
<i>8. Miscellaneous</i>	
1) Sarin and its decomposition products . . . . .	609
2) VX and its decomposition products . . . . .	619
3) Sodium azide . . . . .	629
4) Arsenic compounds and other inorganic poisons . . . . .	637
5) Nitrate and nitrite compounds . . . . .	649
6) Methemoglobin . . . . .	655
Subject index . . . . .	659