

CONTENTS

	Pag
SAMPLE REQUIREMENTS	1
S TATEMENT OF CHEMISTRY LABORATORY POLICY	2
ELAPSED TIME FOR ANALYSIS AND SAMPLE REQUIREMENTS	4
Elapsed Time for Analysis	4
Sample Requirements	6
CONFIRMATION SPECTRA	14
ATOMIC ABSORPTION METHODS OF ANALYS IS	17
THEORY AND OPERATION OF ATOMIC ABSORPTION SPECTROMETER	18
PROCEDURE FOR ASPIRATING METHYL ISOBYTYL KETONE INTO AN AIR-ACETYLENE FLAME	29
PROCEDURE FOR LIGHTING AND USING THE NITROUS OXIDE-ACETYLENE FLAME	30
CALCIUM, MAGNESIUM	32
Serum	34
	POLICY ELAPSED TIME FOR ANALYSIS AND SAMPLE REQUIREMENTS Elapsed Time for Analysis Sample Requirements CONFIRMATION SPECTRA ATOMIC ABSORPTION METHODS OF ANALYSIS THEORY AND OPERATION OF ATOMIC ABSORPTION SPECTROMETER PROCEDURE FOR ASPIRATING METHYL ISOBYTYL KETONE INTO AN AIR-ACETYLENE FLAME PROCEDURE FOR LIGHTING AND USING THE NITROUS OXIDE-ACETYLENE FLAME CALCIUM, MAGNESIUM

	SODIUM, POTASSIUM	34
	Serum	34
	MOLYBDENUM	36
	Atomic Absorption Analysis of Feed, Tissue, and Milk	36
	LEAD	39
	Quantitative Analysis in Blood by MIBK	39
	LEAD, THALLIUM	42
	Dry Ashing Method (Preferred)	42
	ARSENIC, COPPER, IRON, LEAD, THALLIUM, ZINC	45
	Wet Digestion Procedure	45
	COPPER, IRON, ZINC, CALCIUM, MAGNESIUM, SODIUM, POTASSIUM, NICKEL	47
	Dry Ash Atomic Absorption Method	47
PART 3.	INORGANIC MOITIES	49
	AMMONIA	50
	Manual Modified Conway Method	50
	Soluble Ammonia in Biological Samples (Automated Colorimetric Method)	55
	CYANIDE	59
	Prussian Blue Spot Formation	59
	Alternate Method (Qualitative)	63
	FLUORIDE	65
	Fluoride Electrode Analysis for Bone, Urine, Feed	
	(Preferred)	65

		vii
	NITRATES	68
	 In Biological Samples (Manual Method) 	68
	Grasses, Alfalfa, Silage - Automated Colorimetric Procedure	72
	SULFATE	76
	Water and Feed	76
PART 4.	VOLATILE METALS	79
	ARSENIC	80
·	Dry Ash Method	80
	MERCURY	84
PART 5.	PESTICIDES	89
	PESTICIDE SCREEN FOR ORGANOCHLORINE, ORGANOPHOSPHORUS PESTICIDES '	90
	GENERAL THIN-LAYER CHROMATOGRAPHY	92
	Organochlorine and Organo- phosphorus Pesticides - TLC	92
	GENERAL GAS CHROMATOGRAPHY	96
	Organochlorine and Organo- phosphorus Pesticides	96
	General Chromatograph Reagents and Apparatus	100
	Micro Method for Plant and Animal Tissue, Low Fat Matrices	102
	Macro Method for Tissues and Fat, Fat Matrices (Modified Mills, Onley Gaither Method)	107

	PHOSPHORUS PESTICIDES	116
	Feed, Rumen Contents, Stomach Contents	116
	In Water	118
	In Whole Milk	119
	ORGANOCHLOR INE PESTIC IDES	125
	In Blood	125
	In Brain	128
	In Fresh Eggs	129
	2,4-D AND ACIDIC HERBICIDES IN URINE	131
	PENTACHLOROPHENOL	138
	Gas-Liquid Chromatography Analysis of Blood	138
	Gas-Liquid Chromatography Analysis of Urine	142
	Analysis of Tissue and Fat	146
	Gas-Liquid Chromatography of Varnish or Stain	148
	HEXACHLOROPHENE	150
	TLC/GLC Method for Analysis	150
	ATRAZINE	153
	CARBAMATES (FURADAN®)	155
	DIQUAT, PARAQUAT	158
PART 6.	MYCOTOX INS	163
	MYCOTOXIN	164
	Aflatoxin, Scripenes, Ochratoxin, Zearalenone, Rubratoxin	164
PART 7.	ALKALOIDS, DRUGS, AND FEED ADDITIVES	177

		íх
	ALKALOIDS	178
	Extraction and Qualitative Identification	178
	Quantitative Analysis by CLC	182
	ARSANILIC ACID	184
	In Feeds - Applicable in Absence of Sulfonamides	184
	D IETHYLS TILBESTROL	187
	Quantitative Method	187
	Presumptive Method	190
	UREA UREASE METHOD	192
	THIN-LAYER DETERMINATION OF UREA	194
	LEVAMISOLE IN BIOLOGICAL SAMPLES	197
PART 8.	FLUOROACETATE (1080) AND WARFARIN	205
	FLUOROACETATE (1080)	206
	GLC and Fluoride Ion Electrode Method	206
	WARFARIN	215
PART 9.	CLINICAL CHEMISTRY	221
	CHOL INESTERASE	222
	ΔpH Method in Blood and Brain	222
	ΔpH Method in Brain (Caudate Nucleus)	225
	pH Stat in Blood - Alternate Method	227
	TEST FOR ACETYL CHOLINESTERASE	
	INHI B ITOR	237
	UR INARY CALCULI	239

PART 10.	APPENDIX	2 4 3
	STANDARD VALUES IN DOMESTIC ANIMALS	244
	CONVERSION FACTORS FOR UNITS OF SOME COMMON BLOOD CONSTITUENTS	245
	CONVERSION FACTORS OF SOME CONVENTIONAL SERUM ENZYME UNITS TO INTERNATIONAL UNITS	246
	STABILITY OF ENZYMES IN SERUM UNDER VARIOUS STORAGE CONDITIONS	248
	STANDARD VALUES IN DOMESTIC ANIMALS	287
	PERIODIC TABLE OF THE ELEMENTS	
	TABLE OF PERIODIC PROPERTIES OF THE ELEMENTS	
	LIGHT ENERGY AND THE USE OF FILTERS	296
	THE ADSORPTION OF CHLORINATED PESTICIDES BY SILICA GEL IN EXTRACTS OF WHOLE BLOOD	300
	SOLVENTS FOR PESTICIDE ANALYSIS	302
	GLC Analysis for PCP	303
	SODIUM DEHALOGENATION FOR PCB OR PBB	303
	CONFIRMATION CONFIRMATION	306
	ARSENIC DISTILLATION	308
	SbC1 ₅ PERCHLORINATION OF PCB'S	310
PART 11.	INDEX	313