

Appendix F

Index of MT Methods

	Method	CIPAC Handbook
MT 1	Freezing point	F
MT 2	Melting point	F
MT 3	Specific gravity, density, and weight per millilitre	F
	3.1 Hydrometer method	
	3.2 Pycnometer method	
	3.3 Density of suspension concentrates	
	3.3.1 Hydrometer method	
	3.3.2 Density bottle method	
MT 6	Material soluble in hexane	F
MT 7	Material soluble in ethanol	F
	7.1 Hot solution	
	7.2 Solution at room temperature	
MT 8	Material insoluble in kerosene	F
MT 9	Materials soluble in water	F
MT 10	Material insoluble in water	F
	10.1 Hot solution of the sample	
	10.2 Cold solution of the sample	
	10.3 Coarse material insoluble in water	
	10.4 Materials insoluble in aqueous solutions of pesticides	
MT 11	Material insoluble in xylene	F
MT 12	Flash point	F
	12.1 Abel method	
	12.2 Tag closed tester	
	12.3 Pensky-Martens closed tester	
MT 14	Freezing mixtures	F
	14.1 At - 5 ± 1 °C	
	14.2 At - 10 ± 1 °C	
MT 15	Suspensibility of wettable powders in water	F
	15.1 CIPAC method	
	15.2 AID (Aid for International Development Programme) method	
MT 16	Material insoluble in dichlorodifluoromethane	F

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 17	Loss in weight	F
	17.1 Weight loss in an oven for 1 hour	
	17.2 Weight loss under vacuum at temperatures above room temperature	
	17.3 Weight loss under vacuum at room temperature	
	17.4 Weight loss at 100 °C for 4 hours	
MT 18	Standard waters	F
	18.1 Preparation of Standard Waters A to G	
	18.2 Preparation of salted waters H and J	
	18.3 Non-CIPAC Standard Waters	
	18.3.1 WHO Standard Hard Water	
	18.3.2 GB Standard Water	
	18.3.3 AOAC Standard Water	
	18.3.4 US Navy Hard Water	
	18.3.5 Synthetic Nile Water	
	18.3.6 ASTM Hard Water	
	18.4 Preparation of Standard Waters of required hardness	
	18.5 Units of measurement for the hardness of water and their conversion	
	18.6 Simplified method of preparing stock solutions	H
MT 19	Phosphate buffer solutions	F
MT 20	Stability of dilute emulsion	F
MT 21	Silica for chromatography	F
	21.1 Silica	
	21.2 Sorbisil® M 60	
	21.3 Florisil	
MT 22	Viscosity	F
	22.1 Viscosity of transparent and opaque liquids in CGS units	
	22.2 Redwood method	
	22.3 Viscosity of mineral oil	
MT 23	Miscibility with hydrocarbon oil	F
MT 24	Phosphorus(V) oxide	F
MT 25	Sand for germination tests	F
MT 26	John Innes compost	F
	26.1 Seeding Compost - with fertilizer	
	26.2 Seeding Compost - without fertilizer	
MT 27	Material insoluble in acetone	F

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 28	Dimedone derivative	F
MT 29	Sulfated ash	F
MT 30	Water	F
	30.1 Karl Fischer method	
	30.2 Dean and Stark method	
	30.3 Free water - 'Speedy' method	
	30.4 Water in acetone solutions	
	30.5 Karl Fischer method using pyridine-free reagents	J
	30.6 Water determination by Karl Fischer method revised method	P
MT 31	Free acidity or alkalinity	F
	31.1 Methyl red indicator method	
	31.2 Electrometric procedure	
	31.3 Acidity of petroleum products	
MT 32	Determination of conductivity	F
MT 33	Tap density	F
MT 34	Dustability tests after tropical storage	F
MT 35	Oil insoluble material	F
MT 36	Emulsion characteristics of emulsifiable concentrates	F
	36.1 Five per cent v/v oil phase	
	36.2 1 per cent v/v oil phase	
	36.3 Emulsion characteristics and re-emulsification properties	K
MT 37	Isolation of active ingredient	F
	37.1 Extraction with acetone	
	37.2 Extraction with petroleum spirit	
	37.3 Removal of solvents by distillation	
MT 38	Organic chlorine	F
	38.1 Potassium - xylene method	
	38.2 Stepanov method	
	38.3 Oxygen flask method	
MT 39	Stability of liquid formulations at 0°C	F
	39.1 Emulsifiable concentrates and solutions	
	39.2 Aqueous solutions	
	39.3 Low temperature stability of liquid formulations	J
MT 40	Water content and suspended solids in technical esters of phenoxyalkanoic acids	F
MT 41	Dilution stability of herbicide aqueous solutions	F
	41.1 Dilution stability of aqueous solutions	O

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 42	Particle size of copper and sulfur products	F
	42.1 Formulations without carriers	
	42.2 Formulations containing carriers	
MT 43	Particle size distribution of DDT wettable powders	F
MT 44	'Flow number'	F
MT 45	Removal of dyes	F
MT 46	Accelerated storage procedure	F
	46.1 General method	
	46.2 AID methods	
	46.3 Accelerated storage procedure (combined method)	J
	46.3 Accelerated storage procedure for LN formulations	O
	46.3 Accelerated storage procedure for MR formulations	P
	46.4 Accelerated storage procedure – method harmonisation (supersedes all previous versions of MT 46)	P
MT 47	Persistent foaming	F
	47.1 Persistent foam	F
	47.2 Determination of the foaming of suspension concentrates	F
	47.3 Persistent foam, general method	O
MT 48	Stability of tar oil products	F
	48.1 Undiluted miscible type	
	48.2 Stock emulsion type	
MT 49	Stability of tar and petroleum products - diluted	F
	49.1 Tar oils - miscible and stock emulsion type	
	49.2 Petroleum oil - miscible type	
MT 50	Alumina	F
MT 51	Stability of undiluted petroleum - tar and petroleum oil products	F
	51.1 Miscible type	
MT 52	Stability of diluted petroleum - tar and petroleum oil products	F
	52.1 Miscible type	
MT 53	Wettability	F
	53.1 Wetting time of a standard tape	
	53.2 Wetting of leaf surfaces	
	53.3 Wetting of wettable powders	

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 54	Stability of undiluted petroleum oil formulations, including those containing DNOC and tar products	F
MT 55	Stability of aqueous dilutions of petroleum oil formulations, including those containing DNOC and tar products	F
	55.1 Petroleum oil and tar products	
	55.2 Petroleum oil formulations, including those containing DNOC.	
	55.3 Petroleum oils for orchard use.	
	55.4 Petroleum oils for glasshouse use.	
MT 56	Volatility of neutral oil	F
	56.1 Preliminary examination	
	56.2 Full method.	
MT 57	Un sulfonated residue of neutral oil	F
MT 58	Dust content and apparent density of granular pesticide formulations	F
	58.1 Sampling	
	58.2 Preparation of sample.	
	58.3 Sieve analysis	
	58.4 Apparent density after compaction without pressure	
MT 59	Sieve analysis	F
	59.1 Dry sieving - dusts	
	59.2 Granular products.	
	59.3 Wet sieving	
MT 60	Solubility of the alkali metal salts of phenoxyalkanoic acid herbicides and their solid formulations	F
MT 61	Distillation range of neutral oil	F
MT 64	Hydrolysable organic chlorine	F
	64.1 HCH technical	
	64.2 HCH dusts and dispersible powders	
	64.3 HCH emulsifiable concentrates and solutions	
	64.4 DDT technical	
	64.5 DDT dusts and wettable powders	
	64.6 DDT emulsifiable concentrates and solutions	
MT 65	Organic chlorine in pesticides in aqueous emulsions	F
MT 66	Free acidity of phenoxyalkanoic esters	F
MT 67	Fat extraction apparatus	F

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 68	Total chlorides	F
	68.1 Chlorides in phenoxyalkanoic acids	
	68.2 Chlorides in technical mercurial compounds	
MT 69	Free phenols	F
	69.1 2,4-D	
	69.2 MCPA	
	69.3 2,4-DB	
	69.4 Dichlorprop	
	69.5 MCPB	
	69.6 Mecoprop	
MT 71	Solubility in sodium hydroxide	F
	71.1 Phenoxyalkanoic acids	
	71.2 Cresols	
	71.3 Bromoxynil and Ioxynil	
MT 73	Hardness of water	F
	73.1 Total hardness of water	O
MT 74	Neutrality	F
MT 75	Determination of pH values	F
	75.1 General method	
	75.2 pH of aqueous dispersions	
	75.3 Determination of pH values (revised method)	J
MT 76	Solubility in aqueous triethanolamine	F
MT 77	Determination of 1-chloro-2,3-epoxypropane	F
MT 78	Hydrogen sulfide and thiols	F
MT 79	Acid wash	F
MT 80	Residue on evaporation	F
	80.1 Low boiling products	
	80.2 Cresols	
MT 81	Soluble alkalinity	F
MT 82	Soluble chlorides	F
MT 83	Seed adhesion test for powders for seed treatment	F
	83.1 Cereal seeds	
	83.2 Pea seeds	
MT 84	Ignition tests	F
	Assessment of the spontaneous ignition potential of dithiocarbamates	
MT 86	Kieselguhr	F
	86.1 For GLC	
	86.2 For Partition Chromatography	

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 87	Materials soluble in chloroform 87.1 Hot solution 87.2 Cold solution	F
MT 90	Materials soluble in toluene	F
MT 92	Determination of lead 92.1 Dithizone general method 92.2 Dithizone alternative method	F
MT 93	Determination of manganese 93.1 Bismuthate method 93.2 EDTA method	F
MT 94	Determination of zinc 94.1 Zinc dithiocarbamates	F
MT 95	Determination of iron 95.1 Total iron 95.2 Divalent iron 95.3 Trivalent iron	F
MT 97	Separation and identification of herbicides	F
MT 98	Water-soluble copper 98.1 Colorimetric method 98.2 Atomic absorption spectrophotometric method	
MT 99	Determination of arsenic	F
MT 100	Total chlorides 100.1 In mercurials	F
MT 101	Heptane-insoluble materials in aldrin	F
MT 104	Identification of mercurial compounds 104.1 Organomercury compounds.	F
MT 105	Preparation of nitrogen complexes of nitro compounds 105.1 Technical compounds 105.2 Esters	F
MT 107	Ammonia-ammonium chloride buffer solution - pH 10	F
MT 108	Dinitro compounds - solubility of salts and materials insoluble in alkali 108.1 Ammonium salt 108.2 Sodium salt 108.3 Triethanolamine salt	F
MT 109	Acid content of dinitro compounds	F

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 110	Mercurial impurities in technical and formulated mercurials	F
	110.1 General TLC method for samples containing more than 1% of inorganic mercury	
	110.2 Gravimetric method	
	110.3 Sulfide colorimetric method	
	110.4 2-Ethoxyethylmercury(II) and 2-methoxyethyl(II) chlorides	
	110.5 Mercurial seed treatments containing mercury(II) chloride and/or iodide	
	110.6 Phenyl mercury(II) chloride	
MT 113	Silanization of gas chromatographic columns	F
	113.1 Off column	
	113.2 On column	
MT 114	Corrections for interfering peaks	F
MT 116	Mercury(II) salts - characteristic reactions	F
	116.1 Precipitation of sulfide	
	116.2 Deposition of mercury on copper	
	116.3 Reduction with tin(II) chloride	
	116.4 Precipitation of mercury(II) iodide	
	116.5 Precipitation of mercury(II) oxide with sodium hydroxide	
	116.6 Precipitation of ammonium mercury(II) chloride with ammonia solution	
MT 117	Test for chloride	F
	117.1 Liberation of chlorine	
	117.2 Precipitation of silver chloride	
	117.3 Formation of chromyl dichloride (CrOCl ₂)	
MT 118	Tests for iodides	F
	118.1 Liberation of iodine	
	118.2 Precipitation of silver iodide	
	118.3 Liberation of iodine	
	118.4 Precipitation of mercury(II) iodide	
	118.5 Precipitation of copper(I) iodide	
MT 120	Tests for phosphates	F
MT 121	Tests for silicates	F
	121.1 Preparation of sample	
	121.2 Precipitation of silicic acid and evaluation of ammonia	
	121.3 Formation of silicic acid gel	
	121.4 Precipitation of silver silicate	

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 126	Extractable acids	F
MT 127	Melting point of extractable acids	F
MT 129	Gas liquid chromatography of phenoxyalkanoic and other herbicides	F
	129.1 Preparation of solutions for methylation	
	129.2 Methylation of acids	
	129.3 Gas chromatography	
MT 130	Colorimetric tests for identifying certain alkylene-bis(dithiocarbamates) in technical material and formulated products	F
MT 133	Determination of nitrophenols - titanium(III) chloride method	F
MT 134	Preparation of 2-pyridylamine (2-amino-pyridine) complexes of nitro compounds	F
	134.1 Technical nitrophenols	
	134.2 Technical nitrophenol esters	
MT 137	Identification of urea herbicides	F
MT 139	Pour point of mineral oil	F
MT 141	Determination of free amines in urea herbicides	F
MT 142	Detection and identification of impurities in substituted phenylurea herbicides	F
MT 145	Active ingredients containing phosphorus	F
MT 146	'Oil content' of emulsifiable pesticide concentrates	F
MT 147	Retention test for seed treatment powders used on cereal seeds	F
MT 148	Pourability of suspension concentrates	F
	148.1 Pourability of suspension concentrates (revised method)	J
MT 149	Packing columns for gas chromatography	F
MT 151	Determination of TCDD in 2,4,5-T	F
	151.1 TCDD in 2,4,5-T technical	
	151.2 TCDD in 2,4,5-T technical esters	
MT 152	Identification of amines	F
MT 153	Qualitative procedure for confirmation of the presence of a dithiocarbamate or thiuram disulfide	F
	153.1 Liquids	
	153.2 Solids	
MT 154	Identification of dithiocarbamate anions	F
	154.1 Zinc dithiocarbamates - Identification by TLC	

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 155	Analytical HPLC method for determination of phenolic impurities in phenoxyalkanoic herbicides 155.1 Ultraviolet detector method 155.2 Electrochemical detector method	F
MT 157	Water solubility 157.1 Preliminary test 157.2 Column elution method (Solubility less than 10 ⁻² g/l) 157.3 Flask Method (Solubility above 10 ⁻² g/l)	F
MT 158	Determination of mercury on treated seeds	F
MT 159	Pour and tap bulk density of granular materials	F
MT 160	Spontaneity of dispersion of suspension concentrates	F
MT 161	Suspensibility of aqueous suspension concentrates	F
MT 162	Determination of ethylenethiourea (ETU) 162.1 HPLC method (Referee method) 162.2 Paper chromatographic method 162.3 HPLC method	F O
MT 163	Identity tests for permethrin, cypermethrin and fenvalerate	F
MT 165	Ultraviolet absorption test for evaluation of ethylene-bis(dithiocarbamate)	F
MT 166	Sampling of water dispersible granules	F
MT 167	Wet sieving after dispersion of water dispersible granules	F
MT 169	Tap density of water dispersible granules 1 Standard-method 2 Method with dry substance jolting volumeter	F
MT 170	Dry sieve analysis of water dispersible granules	F
MT 171	Dustiness of granular products 171.1 Dustiness of granular products – revised method	F P
MT 172	Flowability of water dispersible granules after heat test under pressure 172.1 Flowability of granular preparations after accelerated storage under pressure 172.2 Flowability of granular formulations after accelerated storage under pressure – revised method	F O P
MT 173	Colorimetric method for determination of the stability of dilute emulsions	F
MT 174	Dispersibility of water dispersible granules	F

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 175	Determination of seed-to-seed uniformity of distribution for liquid seed-treatment formulations.	F
MT 176	Dissolution rate of water soluble bags	F
MT 177	Suspensibility of water dispersible powders (Simplified method)	F
MT 178	Attrition resistance of granules	H
	178.2 Attrition resistance of dispersible granules	K
MT 179	Dissolution degree and solution stability	H
	179.1 Dissolution degree and solution stability (replaces MT 179)	O
MT 180	Dispersion stability of suspo-emulsions	H
MT 180	Dispersion stability of suspo-emulsions	H
	Dispersion stability of CD and OD formulations	O
MT 181	Solubility in organic solvents	H
MT 182	Wet sieving using recycled water	J
MT 183	The use of the agrochemical emulsion tester (AET) for the determination of the stability of dilute emulsions	J
MT 184	Suspensibility of formulations forming suspensions on dilution with water	K
	184.1 Suspensibility of formulations forming suspensions on dilution with water – revised method	P
MT 185	Wet sieve test	K
MT 186	Bulk density	K
MT 187	Particle size analysis by laser diffraction	K
MT 188	Determination of free parathion-methyl in CS formulations	L
MT 189	Determination of free lambda-cyhalothrin in CS formulations	L
	189.2 Free pirimiphos-methyl in CS formulations	O
MT 190	determination of release properties of lambda-cyhalothrin in CS formulations	L
	190.2 Pirimiphos-methyl, release rate of CS formulations	O
MT 191	Acidity or alkalinity of formulations	L
MT 192	Viscosity of liquids by rotational viscometry	L
	Revised method	M
MT 193	Friability of tablets	L
	Attrition of tablets (revised method)	O
MT 194	Adhesion to treated seeds	N
MT 195	Wash resistance index of LN's	O
MT 196	Solution properties of water soluble tablets	O

APPENDIX F - INDEX OF MT METHODS

	Method	CIPAC Handbook
MT 197	Disintegration of tablets	O
MT 198	Toluene, method	O
MT 199	Quaternary ammonium compounds	O
MT 200	Retention properties method of Pyriproxyfen MR	P