

EnviroMAT™

EnviroMAT™ Matrix Reference Materials are a cost effective solution for daily quality control verification for ICP, ICP-MS, GFAA and AA analytical techniques.

KEY FEATURES

- ◆ The Reference Values are based on the results of a round-robin analysis performed by 22 laboratories (U.S.A. and Canada), including environment, industry and government. Round-robin protocols consisted of both an Acid Leach and Total Acid Digest followed by spectrometric analysis.
- ◆ A Certificate of Analysis (designed as per ISO Guide 31 – “Reference Materials - contents of certificates, labels, and accompanying documentation”) listing certified values as well as confidence and tolerance levels for both the acid leach and total digestion is included with each standard (calculations for protocols outlined in ISO Guide 35 – “Certification of Reference Materials”).
- ◆ Complete sampling, handling and digestion method information is included.



EnviroMAT™ STANDARDS DESCRIPTION	SYMBOL	CODE	QUANTITY	CATALOG NUMBER
Soil, Contaminated	SS-1	---	100 g	140-025-001
Soil, Contaminated	SS-2	---	100 g	140-025-002
Sludge, Sewage	BE-1	---	50 g	140-025-011
Water, Drinking, Low Level, Concentrate	EP-L-1	✓ (8)	2 x 25 ml	140-025-131
Water, Drinking, Low Level, Concentrate	EP-L-1	✓ (8)	250 ml	140-025-031
Water, Drinking, High Level, Concentrate	EP-H-1	✓ (8)	2 x 25 ml	140-025-132
Water, Drinking, High Level, Concentrate	EP-H-1	✓ (8)	250 ml	140-025-032
Water, Drinking, High & Low	SET	✓ (8)	250 ml	140-025-030
Water, Ground, Low Level, Concentrate	ES-L-1	✓ (8)	2 x 25 ml	140-025-134
Water, Ground, Low Level, Concentrate	ES-L-1	✓ (8)	250 ml	140-025-034
Water, Ground, High Level, Concentrate	ES-H-1	✓ (8)	2 x 25 ml	140-025-135
Water, Ground, High Level, Concentrate	ES-H-1	✓ (8)	250 ml	140-025-035
Water, Ground, High & Low	SET	✓ (8)	250 ml	140-025-033
Water, Waste, Low Level, Concentrate	EU-L-1	✓ (8)	2 x 25 ml	140-025-137
Water, Waste, Low Level, Concentrate	EU-L-1	✓ (8)	250 ml	140-025-037
Water, Waste, High Level, Concentrate	EU-H-1	✓ (8)	2 x 25 ml	140-025-138
Water, Waste, High Level, Concentrate	EU-H-1	✓ (8)	250 ml	140-025-038
Water, Waste, High & Low	SET	✓ (8)	250 ml	140-025-036
Oil, Used	HU-1	---	125 ml	140-025-041
Lead in Paint, Level 1 - NEW	LP-1	---	20 g	140-025-200
Lead in Paint, Level 2 - NEW	LP-2	---	20 g	140-025-201

CALL FOR MORE INFORMATION

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⊗ Glass Container

✓ Dangerous Goods*

⊗ Poison

⊗ Corrosive

⊗ Flammable

⊗ Oxidant

As defined by:

• Hazardous Materials Regulations of the U.S. Department of Transportation, Tariff No. BOE-6000-R
• Canadian Transportation of Dangerous Goods Act and Regulations, Revision December 2000
• International Air Transport Association - Dangerous Goods Regulation, 40th Edition

MK-ENVIROMAT-8.0-E

Certificate of Analysis

Catalogue Number: 140-025-002
Description: Matrix Reference Material
EnviroMAT Contaminated Soil (SS-2-2)
Lot Number: S150827031
Date of Initial Certification: October 30th, 2015
Date of Last Verification: N/A
Expiration date: 2 years after shipping date

Elements	Unit	Consensus Value	Uncertainty +/-	Confidence Interval	Tolerance Interval
Ag	mg/kg	3.9	0.2	3.6 - 4.1	1.8 - 6.0
Al	mg/kg	9548	294	9254 - 9842	7060 - 12 036
As	mg/kg	3.36	0.17	3.18 - 3.53	1.77 - 4.94
B	mg/kg	8.5	0.4	8.1 - 9.0	5.9 - 11.1
Ba	mg/kg	100	2	98 - 102	80 - 119
Be	mg/kg	0.34	0.01	0.33 - 0.36	0.25 - 0.44
Ca	mg/kg	31 082	563	30 519 - 31 645	26 317 - 35 847
Cd	mg/kg	0.91	0.03	0.88 - 0.94	0.65 - 1.17
Ce	mg/kg	----	----	----	----
Co	mg/kg	6.9	0.3	6.6 - 7.2	4.0 - 9.8
Cr	mg/kg	92.6	4.1	88.4 - 96.7	54.2 - 131
Cu	mg/kg	120	2	118 - 122	99 - 141
Fe	mg/kg	23 083	597	22 486 - 23 680	17 888 - 28 278
Hg	mg/kg	0.059	0.004	0.055 - 0.063	0.034 - 0.084
K	mg/kg	1671	87	1584 - 1758	907 - 2435
Li	mg/kg	9.5	0.6	8.8 - 10.1	5.9 - 13.1
Mg	mg/kg	5132	158	4975 - 5290	3798 - 6467
Mn	mg/kg	252	7	245 - 258	191 - 313
Mo	mg/kg	1.03	0.04	0.99 - 1.07	0.69 - 1.38
Na	mg/kg	797	37	760 - 833	486 - 1107
Ni	mg/kg	25.1	0.6	24.5 - 25.6	19.6 - 30.6
P	mg/kg	752	18	735 - 770	614 - 891
Pb	mg/kg	244	5	239 - 250	192 - 297
S	mg/kg	550	25	525 - 574	395 - 705
Sb	mg/kg	3.5	0.4	3.1 - 3.8	0.5 - 6.4
Se	mg/kg	0.49	0.10	0.39 - 0.58	0 - 1.04
Sn	mg/kg	10.6	0.4	10.1 - 11.0	7.1 - 14.1
Sr	mg/kg	80	2	77 - 82	60 - 99
Tl	mg/kg	0.084	0.006	0.078 - 0.089	0.054 - 0.114
U	mg/kg	0.52	0.02	0.50 - 0.54	0.40 - 0.64
V	mg/kg	30.0	0.7	29.2 - 30.7	23.7 - 36.3
Y	mg/kg	----	----	----	----
Zn	mg/kg	281	7	274 - 288	220 - 342

AgroMAT™

A Family of Matrix Reference Materials for Agricultural Laboratories

AG-1 and AG-2 are soil standards for the analysis of macro and micro-nutrients together with pH, organic matter, nitrate and soluble salt.

AgroMAT™ standards are a cost effective solution for the validation of your internal standards or for routine quality control verification.



KEY FEATURES

- Soils for AgroMAT™ standards were obtained from experimental farm facilities. They have been tested using multiple extraction methods for certain parameters providing flexibility in the choice of analytical methods.
- The Reference Values are based on the results of a round-robin analysis performed by 33 laboratories located in the United States and Canada. All laboratories involved in the certification process are involved in agricultural analysis.
- A Certificate of Analysis (designed as per ISO Guide 31 – “Reference Materials - contents of certificates, labels, and accompanying documentation”) listing Certified Values as well as Confidence and Tolerance levels is included with each standard (Calculations follow protocols outlined in ISO Guide 35 – “Certification of Reference Materials”).
- Available in 175g, wide mouth bottles.

AgroMAT™ STANDARDS	SYMBOL	QUANTITY	CATALOG NUMBER
Soil, Clay	AG-1	175 g	140-025-101
Soil, Sandy	AG-2	175 g	140-025-102
Compost	CP-1	100 g	140-025-111

PlasmaPURE Acid

- Manufactured with trace metal levels less than 10 ppt (0.01 ppb)
- Complete with a detailed Certificate of Analysis



DigiPREP MS

Catalogue No. 010-500-205



- Digest 48 samples
- Teflon® coated graphite block resists corrosive acid attacks

MK-AGROMAT-8-0-E

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Catalogue Number:

140-025-102

Description:

Matrix Reference Material

AgroMAT - Sandy soil AG-2-2

Lot Number:

S131024029

Date of Initial Certification:

April 14th, 2014 (Revised June 30th, 2014)

Date of Last Verification:

N/A

Parameters	Extraction Method	Units	Consensus Value	Confidence Interval	Tolerance Interval
Phosphorus	Bray 1	ppm	(47.3)		
	Mehlich III	ppm	89.9	85.8 - 94.0	64.3 - 115.5
	Olsen	ppm	45.6	41.1 - 50.2	20.8 - 75.5
Potassium	Ammonium Acetate pH 7	ppm	364	341 - 387	224 - 504
	Mehlich III	ppm	398	380 - 416	286 - 511
Calcium	Ammonium Acetate pH 7	ppm	1370	1305 - 1435	995 - 1746
	Mehlich III	ppm	1484	1426 - 1543	1110 - 1859
Magnesium	Ammonium Acetate pH 7	ppm	134	124 - 144	72.9 - 195
	Mehlich III	ppm	186	178 - 194	133 - 238
Sodium	Ammonium Acetate pH 7	ppm	35.4	32.8 - 38.0	19.7 - 51.2
	Mehlich III	ppm	37.8	35.2 - 40.4	23.5 - 52.1
Zinc	DTPA	ppm	0.79	0.73 - 0.85	0.47 - 1.11
	Mehlich III	ppm	2.84	2.72 - 2.95	2.12 - 3.55
Manganese	DTPA	ppm	16.8	14.5 - 19.1	4.17 - 29.5
	Mehlich III	ppm	156	147 - 164	103 - 209
Copper	DTPA	ppm	1.26	1.17 - 1.35	0.791 - 1.72
	Mehlich III	ppm	1.25	1.09 - 1.41	0.270 - 2.23
Iron	DTPA	ppm	64.4	57.0 - 71.9	23.6 - 105
	Mehlich III	ppm	700	660 - 740	437 - 963
Boron	Hot Water	ppm	0.39	0.28 - 0.49	0 - 0.95
	Mehlich III	ppm	0.45	0.39 - 0.51	0.16 - 0.74
Sulfur	Mehlich III	ppm	15.2	14.6 - 15.8	11.9 - 18.5
Aluminum	Mehlich III	ppm	1354	1322 - 1387	1168 - 1541
pH	1 :1 (Soil:Water)	-----	6.89	6.86 - 6.93	6.67 - 7.12
	1 :2 (Soil:Water)	-----	7.02	6.98 - 7.07	6.76 - 7.29
	Saturated Paste	-----	6.85	6.74 - 6.96	6.33 - 7.37
	Buffer SMP	-----	7.06	6.95 - 7.17	6.53 - 7.59
Organic Matter	LOI	%	3.77	3.57 - 3.97	2.26 - 5.27
	Walkley Black	%	2.79	2.63 - 2.94	1.96 - 3.61
Nitrogen as Nitrate	KCl	ppm	27.3	26.6 - 28.0	22.3 - 32.3
Soluble Salts	1 :1 Soil :Water	uS/cm	(334)	----	----
	1 :2 Soil :Water	uS/cm	199	188 - 211	121 - 277
	Saturated Paste	uS/cm	(551)	----	----

Note : Values in bracket are not certified. They are listed for information only.

Certified by: Daniel Boismet

Date of receipt: _____