



Consumables for Elemental Analyzers Consumables & Supplies Reference Cards New Instruments

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Coal and Coke Standards

Please note - We are a standards manufacturer, if there is a particular range you require that we do not offer please contact us at sales@alpharesources.com

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Last Updated: 2/19/19

Mercury in Coal (25 grams) "Chlorine Values Reference Only"

Part #	Lot #	µg/g Mercury	µg/g Chlorine	Mean Weight % Sulfur	Mean Weight % Ash
AR3701	701617	0.071	"(1645)"	1.50	4.47
AR3702	702399JRC75	0.04	"(1713)"	0.77	6.45
AR3703	703399WAL99	0.1	"(<0.01)"	0.45	7.64
AR3704	704399LIG94	0.12	"(<0.01)"	1.17	10.31
AR3705	705399BLK5	0.16	"(<0.01)"	4.71	11.8

C,H,N Coal Standards (25 grams)

Part #	Lot#	% Carbon	% Hydrogen	% Nitrogen
AR1905	905212	77.1	1.88	(1.0) Reference Only
AR1906	906514	60.98	4.16	1.09
AR1907	071112	62.34	3.31	1.01
AR1908	908318	69.00	4.64	1.49

Ultra Low Sulfur Coal Standards

Part #	Lot#	% Sulfur
AR1681 (Blank)	681618	0.00
AR1682	682217	0.022
AR1683	831015	0.052
AR1684	684616	0.098
AR1685	685217	0.164

Sulfur Only Coal and Coke Standards (50 grams)

Part #	Lot #	% Sulfur
AR1700	Sold Out.	Replacement Lot Pending
AR1701	011015	0.57
AR1702	702417	0.73
AR1703	703415	0.89
AR1704	704518	1.09
AR1705	705517	1.48
AR1706	706717	2.07
AR1707	707617	2.63
AR1708	708716	3.03
AR1709	709618	3.54
AR1710	710317	4.25
AR1711	711218	5.13
AR1712	712318	5.79
AR1713	LIG96	1.18
AR1714	714416	1.71
AR1715	715617	7.06
AR719	191109	0.61
AR720	720317	0.77
AR723	723110	0.47
AR724	724517	1.21
AR2712	7120497	0.43
AR2713	131217	0.49
AR2714	714CHAL	0.906
AR2715	715901	1.20
AR2716	716703	2.47
AR2717	717102	2.21
AR2719	719611	2.58
AR2720	201013	4.34
AR2721	211201	5.56

The Ultimates (50 grams)

	Met Coke AR2771	Met Coke AR2772	Coal AR2773	Coal AR2775	Coal AR2776	Coal AR2778	Coal AR2780	Coal AR2781	Coal AR2782	Anthracite AR2783
Lot#	711014	772914	773913	751215	776216	778418	780713	781918	782118	783410
% Ash	7.53	9.35	5.03	6.80	7.23	5.54	23.69	42.89	23.64	17.58
% Vol.	(0.79)	(0.47)	29.48	42.12	31.33	17.58	27.06	26.30	32.24	6.08
% Fixed C	(91.68)	(90.18)	65.49	51.08	(61.44)	(76.88)	49.25	(30.81)	44.12	76.34
BTU	13178	12871	12572	11713	14392	14829	10892	8097	10031	11990
% Sulfur	0.57	0.77	0.52	0.39	0.93	0.76	3.61	2.27	5.39	0.55

% Carbon	89.89	88.69	79.7	69.38	80.96	86.20	60.98	45.14	55.70	77.07
% Hydrogen	(0.23)	(<0.1)	3.13	4.59	4.99	4.36	4.16	3.39	4.10	1.88
% Nitrogen	1.08	1.10	0.64	0.93	1.62	1.20	1.09	0.91	(1.28)	1.02
% Chlorine	(0.024)	(0.026)	(<0.01)				(0.14)		(0.0282)	0.01
% Oxygen	(0.70)	(<0.01)	10.98	17.91	(4.27)	(1.94)	6.47	(5.40)	(9.89)	1.9

(Values inside) Indicates Reference ONLY

Sulfur Forms

% Pyritic	(<0.01)	(0.01)	(0.06)	0.01	(0.03)	0.13	1.28	0.34	1.40	0.07
% Sulfate	(<0.01)	(<0.01)	(0.43)	0.01	(0.27)	0.09	1.19	0.82	0.35	0.05
% Organic	0.57	(0.76)	(0.03)	0.30	(0.49)	(0.54)	1.14	0.75	(0.52)	0.43

(Values inside) Indicates Reference ONLY

Mineral Analysis

Phosphorus Pentoxide	0.34	0.35	0.48	0.74	0.12	(0.08)	0.22	0.44	(0.07)	0.16
Silica	49.99	53.92	27.3	32.41	6.65	34.75	48.91	51.53	60.54	56.79
Ferric Oxide	15.88	8.66	7.33	4.47	4.66	13.60	18.78	11.27	9.44	5.2
Alumina	25.83	28.26	16.15	15.41	26.63	20.13	23.92	25.96	19.91	29.58
Titania	1.35	1.59	0.92	1.24	1.47	1.10	1.20	1.23	9.44	2.33
Sulfur Trioxide	(1.68)	(0.79)	19.17	10.58	0.55	13.45	1.28	2.58	(0.72)	0.37
Potassium Oxide	1.80	1.96	0.31	0.36	3.12	1.13	2.37	2.55	3.55	3.06
Sodium Oxide	0.81	0.54	1.82	1.85	0.26	0.46	0.23	(0.36)	0.57	0.41
Calcium Oxide	2.85	1.91	19.36	24.18	0.60	12.76	1.04	2.54	0.50	0.6
Magnesium Oxide	1.16	0.95	5.24	6.62	1.03	1.85	0.85	0.97	1.48	0.83
Strontium Oxide	(0.13)	(0.13)	0.39	0.41	(0.03)	0.30	0.06	0.09	(0.04)	0.03
Barium Oxide	(0.21)	(0.17)	0.51	0.68	(0.10)	0.23	0.09	<0.01	0.14	0.14
Manganese Oxide	(0.12)	(0.09)	0.03	0.03	(0.02)	0.06	0.04	0.02	0.05	0.03
Undetermined	(0.85)	(0.68)	0.99	1.02	0.76	(0.1)	1.01	0.46	(2.03)	0.47

(Values Inside) Indicates Reference ONLY

Ash Fusion Temperature

Lot #	711014	772914	773913	775612	776714	778418	780713	781411	781918	783410
Initial Reducing	2169	2606	2065	2147	2608	2201	2152	2404	2231	2640
Initial Oxidizing	2495	>2700	2163	2181	>2700	2378	2504	2563	2443	2730
Softening Reducing (H=W)	2365	>2700	2105	2164	>2700	2346	2392	2467	2346	2670
Softening Oxidizing (H=W)	2549	>2700	2201	2212	>2700	2427	2574	2620	2564	2733
Softening Reducing (H=1/2W)	2449	>2700	2130	2179	>2700		2468	2533		2690
Softening Oxidizing (H=1/2W)	2589	>2700	2226	2229	>2700		2634	2664		2733
Fluid - Reducing	2527	>2700	2185	2219	>2700	2437	2580	2597	2562	2700
Fluid - Oxidizing	2635	>2700	2275	2275	>2700	2496	2670	<2700	2667	2733

Petroleum Coke (50 Grams)

	Part #	Part #	Part #	Part #	Part #
	AR742B	AR744	AR745	AR747	AR756
Lot #	742815	744216	745418	747414	561117
% Sulfur	1.11	2.50	0.49	3.51	5.00
% Ash	(0.12)	(0.27)	(0.09)	3.20	(0.60)
% Vol. Matter	11.78	(0.57)	5.79	6.83	6.85
BTU	15,636	13,939	14,861	14,196	14,204
Fixed C%	(88.10)	(99.16)	(94.12)	(89.98)	(92.55)

% C	91.39	96.21	95.92	88.78	87.89
% H	3.83	(0.22)	1.91	2.05	1.89
% N	1.83	1.03	0.80	1.18	1.79
% Ni	250 ppm ug/g	143 ppm ug/g	(93) ug/g	0.0203	281 ppm ug/g
% Fe	221 ppm ug/g	855 ppm ug/g	227 ug/g	0.6799	282 ppm ug/g
% V	124 ppm ug/g	230 ppm ug/g	(40) ug/g	0.0542	1651 ppm ug/g
% Ca	44 ppm ug/g	83 ppm ug/g	(34) ug/g	0.1003	91 ppm ug/g
% Si	34 ppm ug/g	0.131 ug/g	(64) ug/g	0.6469	343 ppm ug/g

Prox Coal and Coke Standards

Part #	Lot #	% Sulfur	% Ash	% Vol. Matter	BTU	Fixed C
AR1720	201215	0.39	6.80	42.12	11713	51.08
AR1721	721913	0.52	5.03	29.48	12572	65.49
AR1722	722216	0.93	7.23	31.33	114392	61.44
AR1723	231012	1.20	6.67	42.29	12937	51.04
AR1724	241014	1.42	17.26	32.27	12216	50.47
AR1726	726516	2.01	47.09	23.47	7409	29.44
AR1727	707707	2.34	21.38	28.07	11645	50.51
AR1728	708807	2.95	7.69	39.35	12357	52.96
AR1729	729713	3.62	23.69	27.06	10892	49.25
AR1730	730614	Out	Of	Stock		48.51
AR1731	311014	1.80	41.64	26.39	8377	31.97
AR1732	321208	6.26	13.09	38.18	10686	48.73
AR1733	733410	0.55	17.58	6.08	11990	76.34
AR1933	TEXLIG896	0.61	7.56	36.31	13181	56.13
AR732	732514	0.47	6.57	1.15	13242	92.28
AR733	711014	0.57	7.53	(0.79)	13178	(91.68)
AR734	734914	0.77	9.35	(0.47)	12871	(90.18)

Mineral Analysis for Coal

Mineral Analysis - % Weight Ignited Basis - 50 Grams/Bottle

Ash Content is provided for those analysts who wish to convert the values to a whole coal basis

	AR2751	AR2752A	AR2753	AR2754	AR2755	AR2756	AR2758	AR2760
Lot#	DISCONTINUED	752102	753716	754714	755898	DISCONTINUED		90
Silicon Dioxide	AT	40.10	27.30	48.91	40.96	AT	DISCONTINUED	49.48
Aluminum Dioxide	THIS	14.44	16.15	23.92	13.29	THIS	AT	27.36
Titanium Dioxide	TIME	1.98	0.92	1.20	0.82	TIME	THIS	1.33
Ferric Oxide		4.89	7.33	18.78	37.10		TIME	15.16
Calcium Oxide		20.84	19.36	1.04	1.76			1.07
Magnesium Oxide		4.59	5.24	0.85	0.56			0.77
Potassium Oxide		0.26	0.31	2.37	1.22			2.47
Sodium Oxide		0.33	1.82	0.23	0.39			0.16
Sulfur Trioxide		10.45	19.17	1.28	0.74			0.39
Phosphorus Pentoxide		0.30	0.48	0.22	0.19			0.30
Strontium Oxide		0.09	0.39	0.06	0.02			0.07
Barium Oxide		0.07	0.51	0.09	0.11			0.00
Manganese Oxide		0.03	(0.03)					
Undetermined			(0.99)	1.01	0.00			1.33
Ash Content of Whole Coal		Not Determined	5.03	23.69	Not Determined			15.00