National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 89

Lead-Barium Glass

This Standard Reference Material (SRM) is in the form of a powder and is intended for use in evaluating chemical and instrumental methods of analyses. The SRM slowly absorbs carbon dioxide and water. Therefore, the analyst must determine the loss on ignition at 900 to 1000 °C and correct all determinations for the difference between the value found and the original value of 0.32 weight percent. The recommended values are given below.

[All results are based on a sample dried for one hour at 105 to 110 °C]

Analyst*	SiO_2	PbO	K_2O	Na_2O	BaO	TiO_2	ZrO_2	Fe_2O_3	Al_2O_3	CaO	MgO	P_2O_5	MnO	As_2O_5	As_2O_3	SO_3	Cl	Loss on Ignition
1	65.36	17.50	8.38	5.73	1.41	0.011	0.003	0.048	0.181	0.21	0.029	0.22	0.089	0.39	0.03	0.031	0.051	0.30
2	65.37	17.51	8.41	5.68	1.39	.020	.006	.051	.178	.208	.032	.243	.088	.348	.032	.031	.054	.37
3	65.28	17.36	8.20	5.64	1.49	.011	---	.044	.130	.21	.04	.22	---	---	---	---	---	.26
4	65.41	17.38	8.30	5.74	1.45	.006	---	.047	.149	.203	.033	.216	.087	.332	---	.041	.05	.20
5	65.38	17.38	8.19	[1]5.99	1.42	.02	---	.050	.12	.14	[1].06	.29	.060	.36	.07	---	---	.36
6	65.28	17.41	8.40	5.62	1.41	---	---	.052	.148	.23	.032	.20	---	---	---	---	---	.30
7	65.26	17.51	8.38	5.72	1.39	---	---	.049	.18	.18	[1].09	.24	.081	.383	---	---	---	.46
Averages	65.33	17.44	8.32	5.69	1.42	.014	.005	.049	.155	.197	.033	.233	.081	.362	.044	.034	.052	.32
Recommended percentges[2]	65.35	17.50	8.40	5.70	1.40	0.01	0.005	0.049	0.18	0.21	0.03	0.23	0.088	0.36	0.03	0.03	0.05	0.32

[1] Omitted from average.

2 The recommended value listed for a constituent is the present best estimate of the "true" value. The recommended values, except for Cl, are given as the oxide on an equivalent weight basis and assume stoichiometry in the form of the oxide listed.

* List of Analysts

- H.B. Knowles, Bureau of Standards.
- M.O. Lamar, Norton Co., Worcester, MA.
- P.E. Corbin, Corning Glass Works, Corning, N.Y.
- R.H. Lardin, Pittsburgh Plate Glass Co., Creighton, PA
- D.W. Moore, 3d, Libbey-Owens-Ford Glass Co., Charleston, W.V.
- R.W. Goodwin, Glass Technology Laboratory, Incandescent Lamp Department of General Electric Co., Cleveland, Ohio.
- The Sharp-Schurtz Co., Lancaster, Ohio

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