U. S. DEPARTMENT OF COMMERCE

National Bureau of Standards

Certificate of Analyses

OF

STANDARD SAMPLE 64A

FERROCHROMIUM

(HIGH CARBON)

ANALYST*	CHROMIUM	CARBON Direct combustion	MANGANESE	PHOSPHORUS Molybdate-Alkali	SULFUR Gravimetric	SULFUR Combustion	SILICON	ALUMINUM	VANADIUM	NITROGEN Distillation-titration	
1	[a] 65. 96	4. 38	[b] 0. 257	[c] 0. 020	0. 114	[d] 0. 116	[e f] 2. 01		[g] 0. 142	[h] 0. 028	
2	[a] 65. 98	4. 40	[i]. 27	. 019	. 122	[j]. 123	[e] 2. 04	<0. 01	[g]. 166	. 029	
3	[k] 65. 99	4. 42	[i]. 27	. 019	. 121		[e] 2. 03	. 009			
4	[l] 66. 05	4. 40	[b]. 265	. 020	. 116	[j]. 113	[e f] 1. 98	<. 01		. 031	
	66. 07	4. 41	[i]. 259			. 108	2. 01				
6	[k] 66. 05	4. 38	[m]. 262	. 016		[j]. 128	[n f] 2. 04	. 016		. 029	
7	[o] 66. 06	4. 40	[b]. 265	. 018	. 128		[p f] 1. 99			. 032	
8	[k] 66. 08	4. 40	[q]. 261	[r] .017, .018		[j]. 117	[n] 2. 06	. 016		. 031	
9	[a] 65. 95	4. 45	[i]. 269			[j]. 123	[n] 2. 05	. 006		. 027	
10	[a] 65. 96	4. 41	[s]. 28	. 018		[j]. 116	[p f] 2. 03	. 01		. 031	
Averages	**66. 01**	**4. 41**	**0. 266**	**0. 018**	**0. 120**	**0. 118**	**2. 02**		**0. 154**	**0. 030**	

[a] 0.5 g sample fused with 8g of Na_2O_2 in a porcelain crucible. Melt leached with water, solution boiled 15 minutes, acidified with H_2SO_4, treated with $AgNO_3$—$(NH_4)_2S_2O_8$ and chromate titrated with $Fe(NH_4)_2(SO_4)_2$ standardized on recrystallized $K_2Cr_2O_7$.

[b] Na_2O_2 fusion-persulfate-arsenite.

[c] Molybdenum-blue photometric method.

[d] 0.5-g sample plus 1g of powdered copper burned in oxygen at 1420° C. Sulfur dioxide absorbed in acidified starch-iodine solution, the iodine being liberated from iodide during the combustion by titration with standard KIO_3 solution based on 93 percent of the theoretical factor.

[e] Na_2O_2 fusion-H_2SO_4 dehydration.

[f] Double dehydration with intervening filtration.

[g] Na_2O_2 fusion-HNO_3 oxidation-potentiometric titration with $Fe(NH_4)_2(SO_4)_2$.

[h] Determination made by M. Marie Cron by the vacuum-fusion method.

[i] Na_2O_2 fusion-bismuthate.

[j] Iodate method.

[k] Na_2O_2 fusion-$FeSO_4$, $KMnO_4$ titration.

[l] Na_2O_2 fusion and melt leached with water. Solution boiled 10 minutes and acidified with 40 ml excess of H_2SO_4 (1:1). One drop of $KMnO_4$ solution (2.5 percent) added, solution boiled 5 min., and 4 ml of HCl (1:4) added. Solution boiled, cooled, and titrated potentiometrically.

[m] 1-g sample dissolved in HCl-HF-$HClO_4$. ZnO-persulfate method.

[n] Solution in HCl and $HClO_4$.

[o] Na_2O_2 fusion-titration with $FeSO_4$-$K_2Cr_2O_7$ using diphenylamine sulfonate indicator.

[p] Na_2O_2 fusion-$HClO_4$ dehydration.

[q] Solution in H_2SO_4. Insoluble residue fused with $Na_2S_2O_7$. ZnO-persulfate-arsenite.

[r] Molybdate-$Mg_2P_2O_7$.

[s] Solution in HCl-HF. Chromium volatilized as CrO_2Cl_2. Persulfate-arsenite.

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