

Certificate of Analysis

Standard Reference Material 3b White Iron

ANALYST	C	Mn	P	S	Si	Cu	Ni	Cr	V	Mo
	Direct Combustion	Persulfate-arsenite	Photometric	Combustion-Titration	Perchloric Acid dehydration	Photometric	Photometric			Photometric
1	2.42	0.351 ^a	0.086 ^b	0.090 ^c	1.04 ^d	0.051 ^e	0.012	0.052 ^f	0.005 ^g 0.006 ^h	0.002
2	2.43	.352	.090	.089	1.04	.047	----	.052 ^j	----	----
3	2.43 ^k	.360	.083 ^l	.086 ^m .085 ⁿ	1.06	.049 ^o	.009 ^p	.056 ^f	.005 ^g	.001
4	2.44 ^q	.35	----	.091	1.03	----	----	.050 ^r	----	----
5	2.44 ^k	.345	----	.084	1.05	----	.007 ^p	.048 ^s	----	<.01
6	2.49	.36	.087 ^l	.088	1.02 ^d	.051 ^t	.012	.054 ^j	.008 ^u	.002
Average	2.44	0.353	0.086	0.088	1.04	0.050	0.010	0.052	0.006	0.002

^a Periodate photometric method.

^b Molybdenum-blue photometric method. See J. Res. NBS 26, 405 (1941) RP 1386.

^c 1-g sample burned in oxygen at 1,450 °C and sulfur dioxide absorbed in starch-iodide solution. Iodine liberated from iodide by titration, during the combustion, with standard KIO₃ solution.

^d Double dehydration

^e Atomic absorption method.

^f Chromium separated from the bulk of the iron in a 10-g sample by hydrolytic precipitation with NaHCO₃, oxidized with persulfate and titrated potentiometrically with ferrous ammonium sulfate.

^g Vanadium separated as in (f), oxidized with HNO₃ and titrated potentiometrically with ferrous ammonium sulfate.

^h Neutron activation analysis.

ⁱ Diethyldithiocarbamate photometric method.

^j Diphenylcarbazide photometric method.

^k Volumetric method.

^l Alkali-molybdate method.

^m Sulfur gases absorbed in NaOH-H₂O₂ solution and excess NaOH titrated with H₂SO₄.

ⁿ Gravimetric method.

^o Neocuproine photometric.

^p Weighed as nickel dimethylglyoxime.

^q Gasometric method.

^r Persulfate oxidation, titration with FeSO₄-Ce(SO₄)₂.

^s FeSO₄-KMnO₄ titration.

^t Copper-ammonia Complex photometric method.

^u H₂O₂ photometric method.

List of Analysts

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The material for the preparation of this standard was furnished by Rex Chainbelt Inc., Milwaukee, Wisconsin, with the cooperation of the Malleable Founders Society, Cleveland, Ohio.

The overall direction and coordination of the technical measurements leading to certification were performed under the chairmanship of O. Menis and J. I. Shultz.

The technical and support aspects involved in the preparation, certification and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by R. E. Michaelis.