

U. S. DEPARTMENT OF COMMERCE
WASHINGTON

National Bureau of Standards
Certificate of Analyses
Standard Sample 127A
SOLDER
(30 Sn-70 Pb)

ANALYST	TIN SnCl ₂ -KIO ₃	ANTIMONY	ARSENIC	BISMUTH	COPPER	NICKEL Colorimetric	SILVER
1	{ 30.03 30.03 }	^b 0.79	^c 0.132	^d 0.039	^e 0.003	^f 0.002	^g 0.003
2	30.01	^h .78	ⁱ .128	^j .036	^k .004	.002	
3	30.01	^l .79	^m .13	ⁿ .04	^o .004	^p .002	
4	30.08	^q .79	^r .138	^s .035	^t .004	.002	
5	{ ^v 30.04 ^w 30.06 }	^x .78	^y .125				
6	30.03	^z .79	^{aa} .125	^{ab} .035	^{ac} .004	.002	^{ad} .004
7	29.99	^{ae} .79	^{af} .125	^{ag} .040		^{ah} .002	
8	30.02	^{ai} .80	^{aj} .124	^{ak} .036	^{al} .004		
9	30.05	^{am} .79	^{an} .130	^{ao} .035	^{ap} .004	.002	
10	30.07	^{aq} .80	^{ar} .131	^{as} .031	^{at} .004	.002	
Average	30.03	0.79	0.129	0.036	0.004	0.002	0.004

^a Tin separated by distillation from a 0.7-g sample, precipitated with cupferron and ignited to SnO₂. See J. Research NBS 33, 307 (1944) RP1610.

^b Antimony separated by distillation from a 5-g sample as described in J. Research NBS 21, 95 (1938) RP1116. Distillate treated with H₂S. Antimonous sulfide dissolved and titrated with KMnO₄.

^c Sodium hypophosphite-ammonium molybdate-photometric method.

^d Antimony, arsenic, and tin volatilized from a 1-g sample with HBr-HClO₄. Bismuth determined by the thiourea-photometric method. See J. Research NBS 47, No. 4 (Oct. 1951) RP2250.

^e Dithizone-photometric method.

^f Polarographic method. Determination made by J. K. Taylor.

^g Antimony reduced with H₂SO₃ and titrated with KBrO₃. See ASTM method E-46 or E-57.

^h Arsenic separated by distillation and titrated with KBrO₃.

ⁱ Copper separated with metallic lead and determined photometrically with HBr.

^j Internal electrolysis. See ASTM method E-46.

^k Spectrographic analysis.

^l Tin reduced with lead and titrated with iodine.

^m Distillation-As₂S₃-gravimetric method.

ⁿ Bismuth separated by internal electrolysis and determined gravimetrically.

^o Deposition by internal electrolysis and titration with iodide-thiosulfate.

^p Tin reduced with nickel or lead and titrated with KIO₃.

^q Tin reduced with nickel or lead and titrated with iodine.

^r Bismuth separated by internal electrolysis and determined photometrically with thiourea.

^s Silver separated by internal electrolysis and determined photometrically as AgCl.

^t Titration with KMnO₄.

^u Arsenic separated by distillation and titrated with iodine.

^v Bismuth separated by internal electrolysis and determined photometrically.

^w Weighed as nickel dimethylglyoxime.

^x Lead button, obtained from the fire assay of a 10-g sample, scorified and weighed. Bismuth determined in a sample of the button by the thiourea-photometric method.

^y Copper determined photometrically on a 10-g sample after removal of tin and antimony by HBr-H₂SO₄ treatment, and lead as the sulfate.

List of Analysts

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- C. B. Craver, Roland Leffler, and J. L. Pinkston, The Eagle-Picher Company of Texas, Dallas, Tex.
- J. W. Claypool, Nassau Smelting and Refining Co., Tottenville, N. Y.
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The metal for the preparation of this standard was furnished by Federated Metals Division, American Smelting and Refining Co., and atomized by the Metals Disintegrating Co.

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