U.S. Department of Commerce
Juanita M. Kreps
Secretary

National Bureau of Standards
Ernest Ambler, Director

National Bureau of Standards Certificate of Analysis

Standard Reference Material 879

Nickel Silver (CDA 762)

(In Cooperation with the American Society for Testing and Materials)

This material is in the form of small granules prepared by water atomization and is intended for use in chemical and instrumental methods of analysis. A similar material also is available as SRM 880, Nickel Silver (CDA 770).

CAUTION: The contents of the bottle should be thoroughly mixed before using.

Constituent	Cu	Ni	Zn	Fe	Mn	Pb
Certified Value, % by wt.[1]	57.75	12.11	30.04	0.0020	<0.001	0.002
Estimated Uncertainty[2]	0.05	0.03	0.11	0.0007	- - -	0.001
Method[3] / Lab	Electrolytic	Gravimetric		Atomic Absorption	Atomic Absorption	Atomic Absorption
A	57.78	12.09	[a] 30.14	0.0025	0.0002	0.001
B	57.70	[b] 12.11	[a] 30.05	.0015	<.001	.002
C	[c] 57.68	- - -	[d] 30.00	- - -	.0002	.003
D	57.78	12.14	[c] 30.15	[e] .0013	.0008	.002
E	57.79	12.09	[f] 29.93	.0024	.00015	- - -

[1]The certified value listed for a constituent is the *present best estimate* of the "true" value based on results of the cooperative analytical program for certification.

[2]The estimated uncertainty listed for a constituent is based on judgment and represents an evaluation of the combined effects of method imprecision, possible systematic errors among methods, and material variability for samples 0.5 g or more. (No attempt was made to derive exact statistical measures of imprecision because several methods were involved in the determination of most constituents).

[3]A detailed description of many of the methods of analysis employed in the certification program for this SRM may be found in Part 12, Chemical Analysis of Metals and Metal Bearing Ores, Annual Book of ASTM Standards.

NOTE: Laboratory D reported a value of 0.0015 percent silver.

[a]Complexometric - EDTA titration
[b]Electrolytic method
[c]Volumetric
[d]Atomic absorption
[e]Spectrophotometric
[f]Zinc separated by ion-exchange and titrated with CDTA

Washington, D.C. 20234
June 20, 1979

George A. Uriano, Chief
Office of Standard Reference Materials

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PLANNING, PREPARATION, TESTING, ANALYSIS:

The material for this SRM was prepared by the International Nickel Co., Inc., Sterling Forest, Suffern, New York.

Homogeneity testing was performed at NBS by R. K. Bell, ASTM-NBS Assistant Research Associate. The material variability was determined to be within the method imprecision.

Cooperative analyses for certification were performed in the following laboratories:

Amax Base Metals Research & Development, Inc., Carteret, New Jersey, P. R. Soriano

Kennecott Research Center, Metal & Mining Division, Salt Lake City, Utah, A. P. Langheinrich.

National Bureau of Standards, Inorganic Analytical Research Division, Washington, D.C., E. R. Deardorff, T. C. Rains, T. A. Rush, and R. K. Bell, ASTM-NBS Assistant Research Associate.

Phelps Dodge Refining Corp., El Paso, Texas, A. L. Cardinal.

Southwire Company, Copper Division, Carrollton, Georgia, R. L. Osborne.

The overall coordination of the technical measurements leading to certification was performed under the direction of J. I. Shultz, Research Associate, ASTM-NBS Research Associate Program.

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. Alvarez and R. E. Michaelis.