

# Product Specification

## Copper ICP-MS Standard, 10,000 ppm Cu in 5% HNO<sub>3</sub>

**Lot Number:** SAMPLE

**Product Number:** MSCU10KN

**Manufacture Date:** N/A

**Expiration Date:** N/A

The certified value for this product is confirmed in independent testing by a second qualified chemist.

The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3114. All trace level elements were determined by ICP or ICP-MS.

Name	CAS#	Grade
Water	7732-18-5	
Nitric Acid	7697-37-2	
Copper	7440-50-8	

Test	Specification	Result	NIST SRM#
Appearance	Blue liquid	N/A	
Assay (vs. EDTA/Murexide)	9950-10050 ppm Cu	N/A	915

I=Spectral Interference N=Not Tested

### Trace Elements by ICP or ICP - MS

All values reported in mg/L (ppm)

Aluminum (Al)	N/A	Lutetium (Lu)	N/A	Terbium (Tb)	N/A
Antimony (Sb)	N/A	Magnesium (Mg)	N/A	Thallium (Tl)	N/A
Arsenic (As)	N/A	Manganese (Mn)	N/A	Thorium (Th)	N/A
Barium (Ba)	N/A	Mercury (Hg)	N/A	Thulium (Tm)	N/A
Beryllium (Be)	N/A	Molybdenum (Mo)	N/A	Tin (Sn)	N/A
Bismuth (Bi)	N/A	Neodymium (Nd)	N/A	Titanium (Ti)	N/A
Boron (B)	N/A	Nickel (Ni)	N/A	Tungsten (W)	N/A
Cadmium (Cd)	N/A	Niobium (Nb)	N/A	Uranium (U)	N/A
Calcium (Ca)	N/A	Osmium (Os)	N/A	Vanadium (V)	N/A
Cerium (Ce)	N/A	Palladium (Pd)	N/A	Ytterbium (Yb)	N/A
Cesium (Cs)	N/A	Phosphorus (P)	N/A	Yttrium (Y)	N/A
Chromium (Cr)	N/A	Platinum (Pt)	N/A	Zinc (Zn)	N/A
Cobalt (Co)	N/A	Potassium (K)	N/A	Zirconium (Zr)	N/A
Dysprosium (Dy)	N/A	Praseodymium (Pr)	N/A		
Erbium (Er)	N/A	Rhenium (Re)	N/A		
Europium (Eu)	N/A	Rhodium (Rh)	N/A		
Gadolinium (Gd)	N/A	Rubidium (Rb)	N/A		
Gallium (Ga)	N/A	Ruthenium (Ru)	N/A		
Germanium (Ge)	N/A	Samarium (Sm)	N/A		
Gold (Au)	N/A	Scandium (Sc)	N/A		
Hafnium (Hf)	N/A	Selenium (Se)	N/A		
Holmium (Ho)	N/A	Silicon (Si)	N/A		
Indium (In)	N/A	Silver (Ag)	N/A		
Iridium (Ir)	N/A	Sodium (Na)	N/A		
Iron (Fe)	N/A	Strontium (Sr)	N/A		
Lanthanum (La)	N/A	Sulfur (S)	N/A		
Lead (Pb)	N/A	Tantalum (Ta)	N/A		
Lithium (Li)	N/A	Tellurium (Te)	N/A		

Specification	Reference
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Copper Standard, 10,000 ppm

EPA (200.8)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
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MSCU10KN-100

100 mL natural LDPE

18 months

**Recommended Storage:** 15°C - 30°C (59°F - 86°F)

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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