

# Product Specification

## Calcium ICP Standard, 1000 ppm Ca in 3% HNO<sub>3</sub>

**Lot Number:** SAMPLE

**Product Number:** PCA1KN

**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 uncertainty associated with the certified value is ± 0.5% relative, which is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution, and transpiration of the solution through the container wall.

The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3109a. All trace level elements were determined by ICP or ICP-MS.

Name	CAS#	Grade
Water	7732-18-5	
Nitric Acid	7697-37-2	
Calcium Carbonate	471-34-1	

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	N/A	
Assay (vs. EDTA/Eriochrome Black T)	995-1005 ppm Ca	N/A	915

### Trace Elements by ICP or ICP - MS

I=Spectral Interference N=Not Tested

All values reported in mg/L (ppm)

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

Specification	Reference
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Calcium ICP Standard, 1 mL = 1 mg Ca (1,000 ppm Ca) CaCO<sub>3</sub> in 3% HNO<sub>3</sub>      EPA (200.7)

This standard is guaranteed to be stable and accurate provided the product is kept tightly capped and stored under normal laboratory conditions. Balances are calibrated using NIST traceable weights whose verification of maintenance and recalibration is documented per in-house Standard Operating Procedures. Class A glassware is also calibrated and routinely rechecked per in-house Standard Operating Procedures. Trace metal analyzed acids and Trace Metals Analyzed Water are used in the manufacture of this product. Triple cleaned containers are used in the manufacture of this product.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
PCA1KN-100	100 mL natural LDPE	18 months
PCA1KN-500	500 mL natural poly	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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