

Product Specification

Germanium ICP Standard, 1000 ppm Ge in H₂O/tr HF

Lot Number: SAMPLE

Product Number: PGE1KW

Manufacture Date: N/A

Expiration Date: N/A

This is a single element solution that was prepared volumetrically to contain the certified value reported. The uncertainty associated with the certified value 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 3120. All trace level elements were determined by ICP or ICP-MS.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Ammonium Hexafluorogermanate	16962-47-3	High Purity
Hydrofluoric Acid	7664-39-3	Trace Metals

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	N/A	
Germanium (Ge)	995-1005 ppm	N/A	3120

Trace Elements by ICP or ICP - MS

I=Spectral Interference N=Not Tested

All values reported in mg/L (ppm)

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

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 inhouse Standard Operating Procedures. Class A glassware is also calibrated and routinely rechecked per inhouse 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)
PGE1KW-100	100 mL natural LDPE	18 months

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



Katie Schnur
Quality Control Manager

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