



## ICP-MS Single and Multi-Component Standards

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# ICP-MS Single and Multi-Component Standards

We offer a broad range of ISO 17034:2016 certified single and multi-component ICP-MS standards. The accuracy of all standards is verified against NIST Spectrometric Standard Solutions where available (otherwise against an ISO 17034 second source Certified Reference Material). We offer single-component standards in the broadest range of matrices available. You can locate the element alphabetically by name, or search by part number. The part is set up as 10-XX-Y where XX is the last 2 digits of the associated NIST SRM 3100 series and Y indicates the matrix: HNO<sub>3</sub> (-1), HCl (-2), HNO<sub>3</sub> + HF (-3), H<sub>2</sub>O (-4), other options (-5 and up). Example: 10 µg/mL solution of aluminum in nitric acid is 10-1-1. This product is traceable to the NIST SRM 3101.

ICP-MS Single-Component Standards				
Component	Concentration	Matrix	Volume	Part #
Aluminum	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-1-1-100
Aluminum	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-1-1-250
Aluminum	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-1-1-500
Antimony	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-2-3-100
Antimony	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-2-3-250
Antimony	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	500 mL	10-2-3-500
Arsenic	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-3-1-100
Arsenic	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-3-1-250
Arsenic	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-3-1-500
Barium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-4-1-100
Barium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-4-1-250
Barium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-4-1-500
Beryllium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-5-1-100
Beryllium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-5-1-250
Beryllium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-5-1-500
Bismuth	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-6-1-100
Bismuth	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-6-1-250
Bismuth	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-6-1-500
Boron	10 µg/mL	H <sub>2</sub> O	100 mL	10-7-4-100
Boron	10 µg/mL	H <sub>2</sub> O	250 mL	10-7-4-250
Boron	10 µg/mL	H <sub>2</sub> O	500 mL	10-7-4-500
Cadmium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-8-1-100
Cadmium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-8-1-250
Cadmium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-8-1-500
Calcium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-9-1-100
Calcium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-9-1-250
Calcium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-9-1-500
Cerium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-10-1-100
Cerium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-10-1-250
Cerium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-10-1-500
Cesium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-11-1-100
Cesium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-11-1-250
Chloride	10 µg/mL	H <sub>2</sub> O	100 mL	ICP-CL-10-100
Chloride	10 µg/mL	H <sub>2</sub> O	250 mL	ICP-CL-10-250
Chloride	10 µg/mL	H <sub>2</sub> O	500 mL	ICP-CL-10-500
Chromium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-12-1-100
Chromium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-12-1-250
Cobalt	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-13-1-100
Cobalt	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-13-1-250
Cobalt	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-13-1-500
Copper	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-14-1-100
Copper	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-14-1-250
Copper	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-14-1-500

**ICP-MS Single-Component Standards (cont'd)**

Component	Concentration	Matrix	Volume	Part #
Dysprosium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-15-1-100
Dysprosium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-15-1-250
Erbium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-16-1-100
Erbium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-16-1-250
Europium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-17-1-100
Gadolinium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-18-1-100
Gadolinium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-18-1-250
Gadolinium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-18-1-500
Gallium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-19-1-100
Gallium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-19-1-250
Germanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-20-3-100
Germanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-20-3-250
Germanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	500 mL	10-20-3-500
Gold	10 µg/mL	2% HCl	100 mL	10-21-2-100
Gold	10 µg/mL	2% HCl	250 mL	10-21-2-250
Gold	10 µg/mL	2% HCl	500 mL	10-21-2-500
Hafnium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-22-3-100
Hafnium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-22-3-250
Holmium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-23-1-100
Holmium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-23-1-250
Indium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-24-1-100
Indium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-24-1-250
Indium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-24-1-500
Iodide	10 µg/mL	H <sub>2</sub> O	100 mL	ICP-II-10-100
Iodide	10 µg/mL	H <sub>2</sub> O	250 mL	ICP-II-10-250
Iodide	10 µg/mL	H <sub>2</sub> O	500 mL	ICP-II-10-500
Iridium	10 µg/mL	2% HCl	100 mL	10-25-2-100
Iridium	10 µg/mL	2% HCl	250 mL	10-25-2-250
Iridium	10 µg/mL	2% HCl	500 mL	10-25-2-500
Iron	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-26-1-100
Iron	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-26-1-250
Iron	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-26-1-500
Lanthanum	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-27-1-100
Lanthanum	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-27-1-500
Lead	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-28-1-100
Lead	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-28-1-250
Lead	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-28-1-500
Lithium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-29-1-100
Lithium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-29-1-250
Lithium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-29-1-500
Lithium 6 Isotope	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-29-6I-100
Lithium 6 Isotope	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-29-6I-500
Lithium 6 Isotope	100 µg/mL	2% HNO <sub>3</sub>	100 mL	100-29-6I-100
Lutetium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-30-1-100
Lutetium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-30-1-250
Magnesium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-31-1-100
Magnesium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-31-1-250
Magnesium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-31-1-500
Manganese	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-32-1-100
Manganese	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-32-1-250
Manganese	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-32-1-500

**ICP-MS Single-Component Standards (cont'd)**

Component	Concentration	Matrix	Volume	Part #
Mercury	10 µg/mL	5% HNO <sub>3</sub>	100 mL	10-33-1-100
Mercury	10 µg/mL	5% HNO <sub>3</sub>	250 mL	10-33-1-250
Mercury	10 µg/mL	5% HNO <sub>3</sub>	500 mL	10-33-1-500
Molybdenum	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-34-3-100
Molybdenum	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-34-3-250
Neodymium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-35-1-100
Neodymium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-35-1-250
Neodymium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-35-1-500
Nickel	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-36-1-100
Nickel	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-36-1-250
Nickel	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-36-1-500
Niobium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-37-3-100
Niobium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-37-3-250
Osmium	10 µg/mL	2% HCl	100 mL	10-70-2-100
Osmium	10 µg/mL	2% HCl	250 mL	10-70-2-250
Osmium	10 µg/mL	2% HCl	500 mL	10-70-2-500
Palladium	10 µg/mL	2% HNO <sub>3</sub> + Tr HCl	100 mL	10-38-1-100
Palladium	10 µg/mL	2% HNO <sub>3</sub> + Tr HCl	250 mL	10-38-1-250
Palladium	10 µg/mL	2% HNO <sub>3</sub> + Tr HCl	500 mL	10-38-1-500
Palladium	10 µg/mL	2% HCl	100 mL	10-38-2-100
Palladium	10 µg/mL	2% HCl	250 mL	10-38-2-250
Palladium	10 µg/mL	2% HCl	500 mL	10-38-2-500
Phosphorus	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-39-1-100
Phosphorus	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-39-1-250
Phosphorus	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-39-1-500
Platinum	10 µg/mL	2% HCl	100 mL	10-40-2-100
Platinum	10 µg/mL	2% HCl	250 mL	10-40-2-250
Platinum	10 µg/mL	2% HCl	500 mL	10-40-2-500
Potassium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-41-1-100
Potassium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-41-1-250
Potassium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-41-1-500
Praseodymium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-42-1-100
Praseodymium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-42-1-250
Praseodymium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-42-1-500
Rhenium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-43-1-100
Rhenium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-43-1-250
Rhenium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-43-1-500
Rhodium	10 µg/mL	2% HCl	100 mL	10-44-2-100
Rhodium	10 µg/mL	2% HCl	250 mL	10-44-2-250
Rhodium	10 µg/mL	2% HCl	500 mL	10-44-2-500
Rubidium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-45-1-100
Rubidium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-45-1-250
Ruthenium	10 µg/mL	2% HCl	100 mL	10-46-2-100
Ruthenium	10 µg/mL	2% HCl	250 mL	10-46-2-250
Ruthenium	10 µg/mL	2% HCl	500 mL	10-46-2-500
Samarium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-47-1-100
Samarium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-47-1-250
Samarium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-47-1-500
Scandium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-48-1-100
Scandium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-48-1-250
Scandium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-48-1-500

**ICP-MS Single-Component Standards (cont'd)**

Component	Concentration	Matrix	Volume	Part #
Selenium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-49-1-100
Selenium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-49-1-250
Selenium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-49-1-500
Silicon	10 µg/mL	H <sub>2</sub> O	100 mL	10-50-4-100
Silicon	10 µg/mL	H <sub>2</sub> O	250 mL	10-50-4-250
Silicon	10 µg/mL	H <sub>2</sub> O	500 mL	10-50-4-500
Silicon	10 µg/mL	H <sub>2</sub> O	100 mL	10-50-4F-100
Silicon	10 µg/mL	H <sub>2</sub> O	250 mL	10-50-4F-250
Silicon	10 µg/mL	H <sub>2</sub> O	500 mL	10-50-4F-500
Silver	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-51-1-100
Silver	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-51-1-250
Silver	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-51-1-500
Sodium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-52-1-100
Sodium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-52-1-250
Sodium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-52-1-500
Strontium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-53-1-100
Strontium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-53-1-250
Strontium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-53-1-500
Sulfur	10 µg/mL	H <sub>2</sub> O	100 mL	10-54-5-100
Sulfur	10 µg/mL	H <sub>2</sub> O	250 mL	10-54-5-250
Sulfur	10 µg/mL	H <sub>2</sub> O	500 mL	10-54-5-500
Tantalum	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-55-3-100
Tantalum	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-55-3-250
Tellurium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-56-3-100
Tellurium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-56-3-250
Tellurium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	500 mL	10-56-3-500
Terbium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-57-1-100
Terbium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-57-1-250
Thallium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-58-1-100
Thallium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-58-1-250
Thallium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-58-1-500
Thorium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-59-1-100
Thorium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-59-1-250
Thorium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-59-1-500
Thulium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-60-1-100
Thulium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-60-1-250
Thulium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-60-1-500
Tin	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-61-3-100
Tin	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-61-3-250
Tin	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	500 mL	10-61-3-500
Tin	10 µg/mL	H <sub>2</sub> O	100 mL	10-61-4-100
Titanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-62-3-100
Titanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-62-3-250
Titanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	500 mL	10-62-3-500
Titanium	10 µg/mL	H <sub>2</sub> O	100 mL	10-62-4-100
Titanium	10 µg/mL	H <sub>2</sub> O	500 mL	10-62-4-500
Tungsten	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-63-3-100
Tungsten	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-63-3-250
Tungsten	10 µg/mL	0.1% NH <sub>4</sub> OH	100 mL	10-63-4-100
Uranium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	238U10-64-1
Uranium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-64-1-100

### ICP-MS Single-Component Standards (cont'd)

Component	Concentration	Matrix	Volume	Part #
Uranium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-64-1-250
Uranium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-64-1-500
Vanadium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-65-1-100
Vanadium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-65-1-250
Vanadium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-65-1-500
Ytterbium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-66-1-100
Ytterbium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-66-1-250
Ytterbium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-66-1-500
Yttrium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-67-1-100
Yttrium	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-67-1-250
Yttrium	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-67-1-500
Zinc	10 µg/mL	2% HNO <sub>3</sub>	100 mL	10-68-1-100
Zinc	10 µg/mL	2% HNO <sub>3</sub>	250 mL	10-68-1-250
Zinc	10 µg/mL	2% HNO <sub>3</sub>	500 mL	10-68-1-500
Zirconium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	10-69-3-100
Zirconium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	250 mL	10-69-3-250
Zirconium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	500 mL	10-69-3-500

### ICP-MS Multi-Component Standards - Starter Kits

NOTE: Each kit contains individual 100 mL bottles of the listed elements at 10 µg/mL

Components	Concentration	Matrix	Volume	Part #
Aluminum, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Cesium, Chromium, Cobalt, Copper, Gallium, Germanium, Indium, Iron, Lead, Lithium, Magnesium, Manganese, Mercury*, Nickel, Phosphorus, Potassium, Rhenium, Rubidium, Selenium, Silicon**, Silver, Sodium, Strontium, Sulfur, Thallium, Thorium, Uranium, Vanadium, Zinc	10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-KIT-A-100
Antimony, Hafnium, Molybdenum, Niobium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Zirconium	10 µg/mL	2-5% HNO <sub>3</sub> + Tr HF	100 mL	ICP-MS-KIT-B-100
Gold, Iridium, Osmium, Palladium, Platinum, Rhodium, Ruthenium	10 µg/mL	2% HCl	100 mL	ICP-MS-KIT-C-100
Cerium, Dysprosium, Erbium, Europium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium, Praseodymium, Samarium, Scandium, Terbium, Thulium, Ytterbium, Yttrium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-KIT-D-100
Bromide, Chloride, Fluoride, Iodide	10 µg/mL	H <sub>2</sub> O	100 mL	ICP-MS-KIT-E-100
Complete Kit: Contains all 74 single-element solutions in kits ICP-MS-KIT-A through ICP-MS-KIT-E	10 µg/mL	Multiple	100 mL	ICP-MS-KIT-A-E-100

\* Matrix is 5% HNO<sub>3</sub>.  
 \*\* Silicon from (HN<sub>4</sub>)<sub>2</sub>SiF<sub>6</sub> in H<sub>2</sub>O.

## ICP-MS Multi-Component Standards - Calibration Standards

Components		Concentration	Matrix	Volume	Part #
Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Europium, Holmium, Lanthanum, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Scandium, Selenium, Silver, Sodium, Strontium, Thallium, Thorium, Uranium, Vanadium, Ytterbium, Zinc		10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	ICP-MSCS-100
				250 mL	ICP-MSCS-250
				500 mL	ICP-MSCS-500
Aluminum, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Europium, Holmium, Iron, Lanthanum, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Selenium, Silver, Sodium, Strontium, Thallium, Thorium, Uranium, Vanadium, Ytterbium, Zinc		10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	ICP-MSCS-M-100
				250 mL	ICP-MSCS-M-250
				500 mL	ICP-MSCS-M-500
Solution A*	Aluminum, Arsenic, Barium, Beryllium, Bismuth, Cadmium, Calcium, Cesium, Chromium, Cobalt, Copper, Gallium, Indium, Iron, Lead, Lithium, Magnesium, Manganese, Nickel, Potassium, Rubidium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc	10 µg/mL	5% HNO <sub>3</sub>	2 solution set at 100 mL each	ICP-MSCS-PE3-100
				2 solution set at 250 mL each	ICP-MSCS-PE3-250
				2 solution set at 500 mL each	ICP-MSCS-PE3-500
Solution B*	Mercury				

## ICP-MS Multi-Component Standards - Verification Standards

Components		Concentration	Matrix	Volume	Part #
Cerium, Dysprosium, Erbium, Europium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium, Praseodymium, Samarium, Scandium, Terbium, Thorium, Thulium, Ytterbium, Yttrium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-B-100
				250 mL	ICP-MS-B-250
				500 mL	ICP-MS-B-500
Antimony, Gold, Hafnium, Iridium, Palladium, Platinum, Rhodium, Ruthenium, Tellurium, Tin		10 µg/mL	10% HCl	100 mL	ICP-MS-C-100
				250 mL	ICP-MS-C-250
				500 mL	ICP-MS-C-500
Boron, Germanium, Molybdenum, Niobium, Phosphorus, Rhenium, Silicon, Sulfur, Tantalum, Titanium, Tungsten, Zirconium		10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	ICP-MS-D-100
				250 mL	ICP-MS-D-250
				500 mL	ICP-MS-D-500
Boron, Molybdenum, Niobium, Phosphorus, Rhenium, Silicon, Sulfur, Tantalum, Titanium, Tungsten, Zirconium		10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	ICP-MS-D-M-100
				250 mL	ICP-MS-D-M-250
				500 mL	ICP-MS-D-M-500
Aluminum, Arsenic, Barium, Beryllium, Cadmium, Calcium, Cesium, Chromium, Cobalt, Copper, Gallium, Iron, Lead, Lithium, Magnesium, Manganese, Nickel, Potassium, Rubidium, Selenium, Silver, Sodium, Strontium, Thallium, Uranium, Vanadium, Zinc		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-E-100
				250 mL	ICP-MS-E-250
				500 mL	ICP-MS-E-500

\* Solution A and B can also be sold separately.

## ICP-MS Multi-Component Standards - 68-Element Standards

Components		Concentration	Matrix	Volume	Part #
Solution A*	Aluminum, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Cerium, Cesium, Chromium, Cobalt, Copper, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Holmium, Indium, Iron, Lanthanum, Lead, Lithium, Lutetium, Magnesium, Manganese, Neodymium, Nickel, Phosphorus, Potassium, Praseodymium, Rhenium, Rubidium, Samarium, Scandium, Selenium, Sodium, Strontium, Terbium, Thallium, Thorium, Thulium, Uranium, Vanadium, Ytterbium, Yttrium, Zinc	10 µg/mL	2% HNO <sub>3</sub>	3 solution set 100 mL each	ICP-MS-68A-100
			2% HNO <sub>3</sub> + Tr HF	3 solution set 250 mL each	ICP-MS-68A-250
			2% HCl	3 solution set 500 mL each	ICP-MS-68A-500
Solution B*	Antimony, Germanium, Hafnium, Molybdenum, Niobium, Silicon, Silver, Tantalum, Tellurium, Tin, Titanium, Tungsten, Zirconium				
Solution C*	Gold, Iridium, Osmium, Palladium, Platinum, Rhodium, Ruthenium				
Solution A*	Aluminum, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Cerium, Cesium, Chromium, Cobalt, Copper, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Holmium, Indium, Iron, Lanthanum, Lead, Lithium, Lutetium, Magnesium, Manganese, Neodymium, Nickel, Phosphorus, Potassium, Praseodymium, Rhenium, Rubidium, Samarium, Scandium, Selenium, Sodium, Strontium, Terbium, Thallium, Thorium, Thulium, Uranium, Vanadium, Ytterbium, Yttrium, Zinc	100 µg/mL	4% HNO <sub>3</sub>	3 solution set 100 mL each	ICP-MS-68B-100
			2% HNO <sub>3</sub> + Tr HF	3 solution set 250 mL each	ICP-MS-68B-250
			15% HCl	3 solution set 500 mL each	ICP-MS-68B-500
Solution B*	Antimony, Germanium, Hafnium, Molybdenum, Niobium, Silicon, Silver, Tantalum, Tellurium, Tin, Titanium, Tungsten, Zirconium				
Solution C*	Gold, Iridium, Osmium, Palladium, Platinum, Rhodium, Ruthenium				
Solution A*	Molybdenum, Titanium	10 µg/mL	2% HNO <sub>3</sub> + Tr HF	2 solution set at 100 mL each	ICP-MS-ICS-100
	Aluminum, Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Sulfur	500 µg/mL			
	Carbon	1,000 µg/mL			
	Chloride	3,600 µg/mL			
Solution AB*	Cadmium	0.05 µg/mL	2% HNO <sub>3</sub> + Tr HF	2 solution set at 250 mL each	ICP-MS-ICS-250
	Arsenic, Chromium, Copper, Manganese, Selenium, Silver, Zinc	0.1 µg/mL			
	Cobalt, Nickel, Vanadium	0.2 µg/mL			
	Molybdenum, Titanium	10 µg/mL		2 solution set at 500 mL each	ICP-MS-ICS-500
	Aluminum, Calcium, Iron, Magnesium, Phosphorus, Potassium, Sodium, Sulfur	500 µg/mL			
	Carbon	1,000 µg/mL			
	Chloride	3,600 µg/mL			

\* Solution A, B, AB and C can also be sold separately.



## ICP-MS Multi-Component Standards - Interference Check Standards

Components		Concentration	Matrix	Volume	Part #
Solution A*	Molybdenum, Titanium	20 µg/mL	5% HNO <sub>3</sub> + Tr HF	2 solution set at 100 mL each	ICP-MS-ICS-2-100
	Aluminum, Magnesium, Phosphorus, Potassium, Sulfur	1,000 µg/mL			
	Carbon	2,000 µg/mL			
	Iron, Sodium	2,500 µg/mL		2 solution set at 250 mL each	
	Calcium	3,000 µg/mL			
	Chloride	20,000 µg/mL			
Solution B*	Silver	5 µg/mL	2% HNO <sub>3</sub> (contains trace components only)	2 solution set at 500 mL each	ICP-MS-ICS-2-500
	Arsenic, Cadmium, Selenium, Zinc	10 µg/mL			
	Chromium, Cobalt, Copper, Manganese, Nickel, Vanadium	20 µg/mL			
Solution A*	Molybdenum, Titanium	20 µg/mL	2% HNO <sub>3</sub> + Tr HF	2 solution set at 100 mL each	ICP-MS-ICS-3-100
	Aluminum, Magnesium, Phosphorus, Potassium, Sulfur	1,000 µg/mL			
	Carbon	2,000 µg/mL			
	Iron, Sodium	2,500 µg/mL		2 solution set at 250 mL each	
	Calcium	3,000 µg/mL			
	Chloride	18,000 µg/mL			
Solution AB*	Arsenic, Cadmium, Selenium, Zinc	10 µg/mL	2% HNO <sub>3</sub>		ICP-MS-ICS-3-250
	Chromium, Cobalt, Copper, Manganese, Nickel, Silver, Vanadium	20 µg/mL			

## ICP-MS Multi-Component Standards - EPA Method Standards

Components		Concentration	Matrix	Volume	Part #
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Thallium, Thorium, Uranium, Vanadium, Zinc		10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	ICP-200.8-1-100
				250 mL	ICP-200.8-1-250
				500 mL	ICP-200.8-1-500
Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Molybdenum, Nickel, Silver, Thallium, Thorium, Uranium, Vanadium, Zinc		10 µg/mL	2% HNO <sub>3</sub> + Tr HF	100 mL	ICP-200.8-2-100
				250 mL	ICP-200.8-2-250
				500 mL	ICP-200.8-2-500
Selenium		50 µg/mL			
Solution A*	Aluminum, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Nickel, Silver, Thallium, Thorium, Uranium, Vanadium, Zinc	20 µg/mL	2% HNO <sub>3</sub>	2 solution set at 100 mL each	ICP-200.8-3-100
	Selenium	100 µg/mL		2 solution set at 250 mL each	ICP-200.8-3-250
Solution B*	Antimony, Molybdenum	20 µg/mL	2% HNO <sub>3</sub> + Tr HF	2 solution set at 500 mL each	ICP-200.8-3-500

\* Solution A, B and AB can also be sold separately.

### ICP-MS Multi-Component Standards - EPA Method Standards (cont'd)

Components		Concentration	Matrix	Volume	Part #
Beryllium, Cadmium, Lead, Selenium		0.005 µg/mL	4% HNO <sub>3</sub> + Tr HF	100 mL	ICP-MS-6020-100
Arsenic, Chromium, Silver, Thallium		0.01 µg/mL			
Manganese		0.015 µg/mL			
Zinc		0.02 µg/mL			
Copper		0.025 µg/mL		250 mL	ICP-MS-6020-250
Nickel		0.04 µg/mL			
Cobalt, Vanadium		0.05 µg/mL		500 mL	ICP-MS-6020-500
Antimony		0.06 µg/mL			
Iron		0.1 µg/mL			
Aluminum, Barium		0.2 µg/mL			
Calcium, Magnesium, Potassium, Sodium		5 µg/mL			

### ICP-MS Multi-Component Standards - Memory Check Solutions

Components		Concentration	Matrix	Volume	Part #
Solution A*	Antimony, Beryllium, Chromium, Manganese, Nickel, Titanium, Vanadium, Zinc	20 µg/mL	2% HNO <sub>3</sub> + Tr HF	2 solution set at 100 mL each	ICP-MS-MCS-100
	Aluminum, Magnesium, Sodium, Sulfur	1,000 µg/mL			
	Carbon	2,000 µg/mL			
	Chlorine	7,200 µg/mL			
Solution B*	Arsenic, Barium, Cadmium, Cobalt, Copper, Lead, Molybdenum, Selenium, Silver, Thallium	20 µg/mL		2 solution set at 250 mL each	ICP-MS-MCS-250
	Calcium, Iron, Phosphorus, Potassium	1,000 µg/mL			

### ICP-MS Multi-Component Standards - Internal Standards

Components		Concentration	Matrix	Volume	Part #
Bismuth, Holmium, Indium, <sup>6</sup> Lithium, Lutetium, Rhodium, Scandium, Terbium, Yttrium		10 µg/mL	2% HNO <sub>3</sub> + Tr HCl	100 mL	ICP-MS-IS-1-100
				250 mL	ICP-MS-IS-1-250
				500 mL	ICP-MS-IS-1-500
Bismuth, Indium, Scandium, Terbium, Yttrium		100 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-IS-2-100
				250 mL	ICP-MS-IS-2-250
				500 mL	ICP-MS-IS-2-500
Bismuth, Germanium, Indium, <sup>6</sup> Lithium, Scandium, Terbium, Yttrium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-IS-3-100
				250 mL	ICP-MS-IS-3-250
				500 mL	ICP-MS-IS-3-500

\* Solution A and B can also be sold separately.

## ICP-MS Multi-Component Standards - Tuning Solutions

Components		Concentration	Matrix	Volume	Part #
Cobalt, Indium, Lithium, Thallium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-1-100
				250 mL	ICP-MS-TS-1-250
				500 mL	ICP-MS-TS-1-500
Cerium, Lithium, Thallium, Yttrium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-2-100
				250 mL	ICP-MS-TS-2-250
				500 mL	ICP-MS-TS-2-500
Beryllium, Cobalt, Indium, Lead, Magnesium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-3-100
				250 mL	ICP-MS-TS-3-250
				500 mL	ICP-MS-TS-3-500
Aluminum, Barium, Beryllium, Bismuth, Cerium, Cobalt, Indium, Lead, Magnesium, Nickel, Vanadium, Yttrium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-4-100
				250 mL	ICP-MS-TS-4-250
				500 mL	ICP-MS-TS-4-500
Bismuth, Holmium, Indium, <sup>6</sup> Lithium, Scandium, Terbium, Uranium, Yttrium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-5-100
				250 mL	ICP-MS-TS-5-250
				500 mL	ICP-MS-TS-5-500
Barium, Beryllium, Cerium, Cobalt, Indium, Lead, Magnesium, Rhodium		10 µg/mL	2% HNO <sub>3</sub> + Tr HCl	100 mL	ICP-MS-TS-6-100
				250 mL	ICP-MS-TS-6-250
				500 mL	ICP-MS-TS-6-500
Barium, Beryllium, Cerium, Cobalt, Indium, Lead, Magnesium, Thallium, Thorium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-7-100
				250 mL	ICP-MS-TS-7-250
				500 mL	ICP-MS-TS-7-500
Barium, Beryllium, Bismuth, Cerium, Cobalt, Indium, Lead, Lithium, Nickel, Uranium		10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-8-100
				250 mL	ICP-MS-TS-8-250
				500 mL	ICP-MS-TS-8-500
Solution A*	Ytterbium, Yttrium	2.5 µg/mL	5% HNO <sub>3</sub>	2 solution set at 100 mL each	ICP-MS-TS-9-100
	Aluminum, Barium, Bismuth, Chromium, Cobalt, Copper, Indium, <sup>6</sup> Lithium, Lutetium, Manganese, Scandium, Sodium, Strontium, Thallium, Thorium, Uranium, Vanadium	5 µg/mL			
	Lead, Magnesium, Nickel	10 µg/mL		2 solution set at 250 mL each	
	Arsenic, Beryllium, Cadmium, Zinc	20 µg/mL			
Solution AB*	Iridium, Titanium	5 µg/mL	10% HCl + 1% HNO <sub>3</sub> + Tr HF	2 solution set at 500 mL each	ICP-MS-TS-9-500
	Antimony, Germanium, Molybdenum, Palladium, Ruthenium, Tin	10 µg/mL			

\* Solution A and AB can also be sold separately.

**ICP-MS Multi-Component Standards - Tuning Solutions (cont'd)**

Components	Concentration	Matrix	Volume	Part #
Cerium, Cobalt, Lithium, Thallium, Yttrium	0.01 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-10-100
			250 mL	ICP-MS-TS-10-250
			500 mL	ICP-MS-TS-10-500
Cerium, Cobalt, Lithium, Thallium, Yttrium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-11-100
			250 mL	ICP-MS-TS-11-250
			500 mL	ICP-MS-TS-11-500
Barium, Beryllium, Cerium, Cobalt, Indium, Lead, Magnesium, Rhodium, Uranium	10 µg/mL	2% HNO <sub>3</sub> + Tr HCl	100 mL	ICP-MS-TS-13-100
			250 mL	ICP-MS-TS-13-250
			500 mL	ICP-MS-TS-13-500
Beryllium, Cerium, Cobalt, Indium, Iron, Lead, Magnesium, Thorium, Uranium	0.001 µg/mL	0.5% HNO <sub>3</sub>	100 mL	ICP-MS-TS-14-100
Barium	0.01 µg/mL		500 mL	ICP-MS-TS-14-500
Beryllium, Cerium, Cobalt, Indium, Iron, Lead, Magnesium, Thorium, Uranium	1 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-15-100
Barium	10 µg/mL		250 mL	ICP-MS-TS-15-250
			500 mL	ICP-MS-TS-15-500
Barium, Beryllium, Cerium, Cobalt, Indium, Lithium, Lead, Magnesium, Rhodium, Thallium, Uranium, Yttrium	10 µg/mL	2% HNO <sub>3</sub> + 5% HCl	100 mL	ICP-MS-TS-16-100
			250 mL	ICP-MS-TS-16-250
			500 mL	ICP-MS-TS-16-500
Cerium, Cobalt, Lithium, Magnesium, Thallium, Yttrium	10 µg/mL	2% HNO <sub>3</sub>	100 mL	ICP-MS-TS-17-100
			250 mL	ICP-MS-TS-17-250
			500 mL	ICP-MS-TS-17-500
Barium, Boron, Cobalt, Gallium, Indium, Iron, Lithium, Lutetium, Potassium, Rhodium, Scandium, Sodium, Thallium, Uranium, Yttrium	1 µg/L	2% HNO <sub>3</sub> + Tr HCl	100 mL	ICP-MS-TS-18-100
			250 mL	ICP-MS-TS-18-250
			500 mL	ICP-MS-TS-18-500
Barium, Boron, Cobalt, Gallium, Indium, Iron, Lithium, Lutetium, Potassium, Rhodium, Scandium, Sodium, Thallium, Uranium, Yttrium	1 µg/mL	2% HNO <sub>3</sub> + Tr HCl	100 mL	ICP-MS-TS-19-100
			250 mL	ICP-MS-TS-19-250
			500 mL	ICP-MS-TS-19-500
Barium, Bismuth, Cerium, Cobalt, Indium, Lead, Lithium, Uranium	1 µg/L	2% HNO <sub>3</sub> + 0.5% HCl	100 mL	ICP-MS-TS-20-100
			250 mL	ICP-MS-TS-20-250
			500 mL	ICP-MS-TS-20-500
Barium, Bismuth, Cerium, Cobalt, Indium, Lead, Lithium, Uranium	1 µg/mL	2% HNO <sub>3</sub> + 0.5% HCl	100 mL	ICP-MS-TS-21-100
			250 mL	ICP-MS-TS-21-250
			500 mL	ICP-MS-TS-21-500

## ICP-MS Multi-Component Standards - Set Up Solutions

Components	Concentration	Matrix	Volume	Part #		
Beryllium, Cerium, Indium, Iron, Lead, Lithium, Magnesium, Uranium	1 µg/L	1% HNO <sub>3</sub>	100 mL	ICP-MS-SS-1-100		
			250 mL	ICP-MS-SS-1-250		
			500 mL	ICP-MS-SS-1-500		
Bismuth, Cerium, Cesium, Holmium, Indium, Rhodium, Tantalum, Terbium, Uranium, Yttrium	3 µg/L	2% HNO <sub>3</sub>	100 mL	ICP-MS-SS-2-100		
Barium, Thallium	4 µg/L					
Strontium	5 µg/L					
Manganese, Silver	6 µg/L					
Cobalt, Lithium, Scandium	8 µg/L				250 mL	ICP-MS-SS-2-250
Aluminum, Gallium, Magnesium	10 µg/L				500 mL	ICP-MS-SS-2-500
Copper, Nickel	15 µg/L					
Zinc	20 µg/L					
Beryllium	35 µg/L					
Cobalt	10 µg/L				1% HCl	100 mL
Cerium	1 µg/L					

