

# ICP & ICP-MS Standards

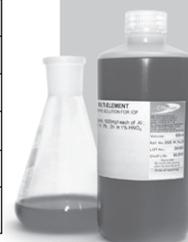




# Single-Element Standards

1000 mg/l for ICP

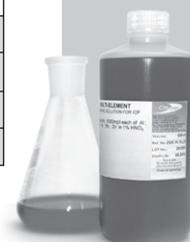
TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C001.2NPL03
				100	ml	C001.2NPL1
				250	ml	C001.2NPL25
				500	ml	C001.2NPL5
Aluminium	Al	in 2-5% HCl	1000 mg/l	30	ml	C002.2CPL03
				100	ml	C002.2CPL1
				250	ml	C002.2CPL25
				500	ml	C002.2CPL5
Aluminium	Al	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C002.2NPL03
				100	ml	C002.2NPL1
				250	ml	C002.2NPL25
				500	ml	C002.2NPL5
Arsenic	As	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C003.2NPL03
				100	ml	C003.2NPL1
				250	ml	C003.2NPL25
				500	ml	C003.2NPL5
Gold	Au	in 2-5% HCl	1000 mg/l	30	ml	C004.2CPL03
				100	ml	C004.2CPL1
				250	ml	C004.2CPL25
				500	ml	C004.2CPL5
Boron	B	in H <sub>2</sub> O	1000 mg/l	30	ml	C005.W.L03
				100	ml	C005.W.L1
				250	ml	C005.W.L25
				500	ml	C005.W.L5
Barium	Ba	in 2-5% HCl	1000 mg/l	30	ml	C006.2CPL03
				100	ml	C006.2CPL1
				250	ml	C006.2CPL25
				500	ml	C006.2CPL5
Barium	Ba	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C006.2NPL03
				100	ml	C006.2NPL1
				250	ml	C006.2NPL25
				500	ml	C006.2NPL5
Beryllium	Be	in 2-5% HCl	1000 mg/l	30	ml	C007.2CPL03
				100	ml	C007.2CPL1
				250	ml	C007.2CPL25
				500	ml	C007.2CPL5
Beryllium	Be	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C007.2N05FPL03
				100	ml	C007.2N05FPL1
				250	ml	C007.2N05FPL25
				500	ml	C007.2N05FPL5
Bismuth	Bi	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C008.10NPL03
				100	ml	C008.10NPL1
				250	ml	C008.10NPL25
				500	ml	C008.10NPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Calcium	Ca	in 2-5% HCl	1000 mg/l	30	ml	C009.2CPL03
				100	ml	C009.2CPL1
				250	ml	C009.2CPL25
				500	ml	C009.2CPL5
Calcium	Ca	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C009.2NPL03
				100	ml	C009.2NPL1
				250	ml	C009.2NPL25
				500	ml	C009.2NPL5
Cadmium	Cd	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C010.2NPL03
				100	ml	C010.2NPL1
				250	ml	C010.2NPL25
				500	ml	C010.2NPL5
Cerium	Ce	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C011.2NPL03
				100	ml	C011.2NPL1
				250	ml	C011.2NPL25
				500	ml	C011.2NPL5
Cobalt	Co	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C012.2NPL03
				100	ml	C012.2NPL1
				250	ml	C012.2NPL25
				500	ml	C012.2NPL5
Chromium	Cr	in 2-5% HCl	1000 mg/l	30	ml	C013.2CPL03
				100	ml	C013.2CPL1
				250	ml	C013.2CPL25
				500	ml	C013.2CPL5
Chromium	Cr	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C013.2NPL03
				100	ml	C013.2NPL1
				250	ml	C013.2NPL25
				500	ml	C013.2NPL5
Cesium	Cs	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C014.2NPL03
				100	ml	C014.2NPL1
				250	ml	C014.2NPL25
				500	ml	C014.2NPL5
Cesium	Cs	in H <sub>2</sub> O	1000 mg/l	30	ml	C014.W.L03
				100	ml	C014.W.L1
				250	ml	C014.W.L25
				500	ml	C014.W.L5
Copper	Cu	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C015.2NPL03
				100	ml	C015.2NPL1
				250	ml	C015.2NPL25
				500	ml	C015.2NPL5
Dysprosium	Dy	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C016.2NPL03
				100	ml	C016.2NPL1
				250	ml	C016.2NPL25
				500	ml	C016.2NPL5
Erbium	Er	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C017.2NPL03
				100	ml	C017.2NPL1
				250	ml	C017.2NPL25
				500	ml	C017.2NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Europium	Eu	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C018.2NPL03
				100	ml	C018.2NPL1
				250	ml	C018.2NPL25
				500	ml	C018.2NPL5
Iron	Fe	in 2-5% HCl	1000 mg/l	30	ml	C019.2CPL03
				100	ml	C019.2CPL1
				250	ml	C019.2CPL25
				500	ml	C019.2CPL5
Iron	Fe	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C019.2NPL03
				100	ml	C019.2NPL1
				250	ml	C019.2NPL25
				500	ml	C019.2NPL5
Gallium	Ga	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C020.2NPL03
				100	ml	C020.2NPL1
				250	ml	C020.2NPL25
				500	ml	C020.2NPL5
Gadolinium	Gd	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C021.2NPL03
				100	ml	C021.2NPL1
				250	ml	C021.2NPL25
				500	ml	C021.2NPL5
Germanium	Ge	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C022.5N1FPL03
				100	ml	C022.5N1FPL1
				250	ml	C022.5N1FPL25
				500	ml	C022.5N1FPL5
Hafnium	Hf	in 2-5% HCl/HF tr	1000 mg/l	30	ml	C023.2C05FPL03
				100	ml	C023.2C05FPL1
				250	ml	C023.2C05FPL25
				500	ml	C023.2C05FPL5
Hafnium	Hf	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C023.2N1FPL03
				100	ml	C023.2N1FPL1
				250	ml	C023.2N1FPL25
				500	ml	C023.2N1FPL5
Mercury	Hg	in 5-10% HNO <sub>3</sub>	1000 mg/l	30	ml	C024.10NPL03
				100	ml	C024.10NPL1
				250	ml	C024.10NPL25
				500	ml	C024.10NPL5
Holmium	Ho	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C025.2NPL03
				100	ml	C025.2NPL1
				250	ml	C025.2NPL25
				500	ml	C025.2NPL5
Indium	In	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C026.2NPL03
				100	ml	C026.2NPL1
				250	ml	C026.2NPL25
				500	ml	C026.2NPL5
Iridium	Ir	in 5-10% HCl	1000 mg/l	30	ml	C027.10CPL03
				100	ml	C027.10CPL1
				250	ml	C027.10CPL25
				500	ml	C027.10CPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Potassium	K	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C028.2NPL03
				100	ml	C028.2NPL1
				250	ml	C028.2NPL25
				500	ml	C028.2NPL5
Potassium	K	in H <sub>2</sub> O	1000 mg/l	30	ml	C028.W.L03
				100	ml	C028.W.L1
				250	ml	C028.W.L25
				500	ml	C028.W.L5
Lanthanum	La	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C029.2NPL03
				100	ml	C029.2NPL1
				250	ml	C029.2NPL25
				500	ml	C029.2NPL5
Lithium	Li	in 2-5% HCl	1000 mg/l	30	ml	C030.2CPL03
				100	ml	C030.2CPL1
				250	ml	C030.2CPL25
				500	ml	C030.2CPL5
Lithium	Li	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C030.2NPL03
				100	ml	C030.2NPL1
				250	ml	C030.2NPL25
				500	ml	C030.2NPL5
Lutetium	Lu	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C031.2NPL03
				100	ml	C031.2NPL1
				250	ml	C031.2NPL25
				500	ml	C031.2NPL5
Magnesium	Mg	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C032.2NPL03
				100	ml	C032.2NPL1
				250	ml	C032.2NPL25
				500	ml	C032.2NPL5
Manganese	Mn	in 2-5% HCl	1000 mg/l	30	ml	C033.2CPL03
				100	ml	C033.2CPL1
				250	ml	C033.2CPL25
				500	ml	C033.2CPL5
Manganese	Mn	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C033.2NPL03
				100	ml	C033.2NPL1
				250	ml	C033.2NPL25
				500	ml	C033.2NPL5
Molybdenum	Mo	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C034.1N1FPL03
				100	ml	C034.1N1FPL1
				250	ml	C034.1N1FPL25
				500	ml	C034.1N1FPL5
Molybdenum	Mo	in 2-5% NH <sub>4</sub> OH	1000 mg/l	30	ml	C034.4APL03
				100	ml	C034.4APL1
				250	ml	C034.4APL25
				500	ml	C034.4APL5
Sodium	Na	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C035.2NPL03
				100	ml	C035.2NPL1
				250	ml	C035.2NPL25
				500	ml	C035.2NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Sodium	Na	in H <sub>2</sub> O	1000 mg/l	30	ml	C035.W.L03
				100	ml	C035.W.L1
				250	ml	C035.W.L25
				500	ml	C035.W.L5
Niobium	Nb	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C036.5N1FPL03
				100	ml	C036.5N1FPL1
				250	ml	C036.5N1FPL25
				500	ml	C036.5N1FPL5
Neodymium	Nd	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C037.2NPL03
				100	ml	C037.2NPL1
				250	ml	C037.2NPL25
				500	ml	C037.2NPL5
Nickel	Ni	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C038.2NPL03
				100	ml	C038.2NPL1
				250	ml	C038.2NPL25
				500	ml	C038.2NPL5
Osmium	Os	in 2-5% HCl	1000 mg/l	30	ml	C039.2CPL03
				100	ml	C039.2CPL1
				250	ml	C039.2CPL25
				500	ml	C039.2CPL5
Phosphorus	P	in 0.5% H <sub>2</sub> SO <sub>4</sub>	1000 mg/l	30	ml	C040.05SPL03
				100	ml	C040.05SPL1
				250	ml	C040.05SPL25
				500	ml	C040.05SPL5
Phosphorus	P	in H <sub>2</sub> O	1000 mg/l	30	ml	C040.W.L03
				100	ml	C040.W.L1
				250	ml	C040.W.L25
				500	ml	C040.W.L5
Lead	Pb	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C041.2NPL03
				100	ml	C041.2NPL1
				250	ml	C041.2NPL25
				500	ml	C041.2NPL5
Palladium	Pd	in 2-5% HCl	1000 mg/l	30	ml	C042.5CPL03
				100	ml	C042.5CPL1
				250	ml	C042.5CPL25
				500	ml	C042.5CPL5
Palladium	Pd	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C042.5NPL03
				100	ml	C042.5NPL1
				250	ml	C042.5NPL25
				500	ml	C042.5NPL5
Praseodymium	Pr	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C043.2NPL03
				100	ml	C043.2NPL1
				250	ml	C043.2NPL25
				500	ml	C043.2NPL5
Platinum	Pt	in 5-10% HCl	1000 mg/l	30	ml	C044.10CPL03
				100	ml	C044.10CPL1
				250	ml	C044.10CPL25
				500	ml	C044.10CPL5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Rubidium	Rb	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C045.2NPL03
				100	ml	C045.2NPL1
				250	ml	C045.2NPL25
				500	ml	C045.2NPL5
Rubidium	Rb	in H <sub>2</sub> O	1000 mg/l	30	ml	C045.W.L03
				100	ml	C045.W.L1
				250	ml	C045.W.L25
				500	ml	C045.W.L5
Rhenium	Re	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C046.2NPL03
				100	ml	C046.2NPL1
				250	ml	C046.2NPL25
				500	ml	C046.2NPL5
Rhenium	Re	in H <sub>2</sub> O	1000 mg/l	30	ml	C046.W.L03
				100	ml	C046.W.L1
				250	ml	C046.W.L25
				500	ml	C046.W.L5
Rhodium	Rh	in 2-5% HCl	1000 mg/l	30	ml	C047.5CPL03
				100	ml	C047.5CPL1
				250	ml	C047.5CPL25
				500	ml	C047.5CPL5
Ruthenium	Ru	in 2-5% HCl	1000 mg/l	30	ml	C048.5CPL03
				100	ml	C048.5CPL1
				250	ml	C048.5CPL25
				500	ml	C048.5CPL5
Sulphur	S	in H <sub>2</sub> O	1000 mg/l	30	ml	C049.W.L03
				100	ml	C049.W.L1
				250	ml	C049.W.L25
				500	ml	C049.W.L5
Antimony	Sb	in 10-20% HCl	1000 mg/l	30	ml	C050.20CPL03
				100	ml	C050.20CPL1
				250	ml	C050.20CPL25
				500	ml	C050.20CPL5
Antimony	Sb	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C050.5N1FPL03
				100	ml	C050.5N1FPL1
				250	ml	C050.5N1FPL25
				500	ml	C050.5N1FPL5
Scandium	Sc	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C051.2NPL03
				100	ml	C051.2NPL1
				250	ml	C051.2NPL25
				500	ml	C051.2NPL5
Selenium	Se	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C052.2NPL03
				100	ml	C052.2NPL1
				250	ml	C052.2NPL25
				500	ml	C052.2NPL5
Silicon	Si	in H <sub>2</sub> O	1000 mg/l	30	ml	C053.W.L03
				100	ml	C053.W.L1
				250	ml	C053.W.L25
				500	ml	C053.W.L5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Samarium	Sm	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C054.2NPL03
				100	ml	C054.2NPL1
				250	ml	C054.2NPL25
				500	ml	C054.2NPL5
Tin	Sn	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C055.1N1FPL03
				100	ml	C055.1N1FPL1
				250	ml	C055.1N1FPL25
				500	ml	C055.1N1FPL5
Tin	Sn	in 20% HCl	1000 mg/l	30	ml	C055.20CPL03
				100	ml	C055.20CPL1
				250	ml	C055.20CPL25
				500	ml	C055.20CPL5
Strontium	Sr	in 2-5% HCl	1000 mg/l	30	ml	C056.2CPL03
				100	ml	C056.2CPL1
				250	ml	C056.2CPL25
				500	ml	C056.2CPL5
Strontium	Sr	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C056.2NPL03
				100	ml	C056.2NPL1
				250	ml	C056.2NPL25
				500	ml	C056.2NPL5
Tantalum	Ta	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C057.5N1FPL03
				100	ml	C057.5N1FPL1
				250	ml	C057.5N1FPL25
				500	ml	C057.5N1FPL5
Terbium	Tb	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C058.2NPL03
				100	ml	C058.2NPL1
				250	ml	C058.2NPL25
				500	ml	C058.2NPL5
Tellurium	Te	in 10-20% HCl	1000 mg/l	30	ml	C059.20CPL03
				100	ml	C059.20CPL1
				250	ml	C059.20CPL25
				500	ml	C059.20CPL5
Tellurium	Te	in 10-20% HNO <sub>3</sub>	1000 mg/l	30	ml	C059.20NPL03
				100	ml	C059.20NPL1
				250	ml	C059.20NPL25
				500	ml	C059.20NPL5
Thorium	Th	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C060.2NPL03
				100	ml	C060.2NPL1
				250	ml	C060.2NPL25
				500	ml	C060.2NPL5
Titanium	Ti	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C061.5N05FPL03
				100	ml	C061.5N05FPL1
				250	ml	C061.5N05FPL25
				500	ml	C061.5N05FPL5
Titanium	Ti	in 5 %HCl/HF tr	1000 mg/l	30	ml	C061.5C05FPL03
				100	ml	C061.5C05FPL1
				250	ml	C061.5C05FPL25
				500	ml	C061.5C05FPL5



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Thallium	Tl	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C062.2NPL03
				100	ml	C062.2NPL1
				250	ml	C062.2NPL25
				500	ml	C062.2NPL5
Thulium	Tm	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C063.2NPL03
				100	ml	C063.2NPL1
				250	ml	C063.2NPL25
				500	ml	C063.2NPL5
Uranium	U	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C064.2NPL03
				100	ml	C064.2NPL1
				250	ml	C064.2NPL25
				500	ml	C064.2NPL5
Vanadium	V	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C065.2NPL03
				100	ml	C065.2NPL1
				250	ml	C065.2NPL25
				500	ml	C065.2NPL5
Vanadium	V	in 2% H <sub>2</sub> SO <sub>4</sub>	1000 mg/l	30	ml	C065.2SPL03
				100	ml	C065.2SPL1
				250	ml	C065.2SPL25
				500	ml	C065.2SPL5
Tungsten	W	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C066.1N2FPL03
				100	ml	C066.1N2FPL1
				250	ml	C066.1N2FPL25
				500	ml	C066.1N2FPL5
Tungsten	W	in 2-5% NH <sub>4</sub> OH	1000 mg/l	30	ml	C066.4APL03
				100	ml	C066.4APL1
				250	ml	C066.4APL25
				500	ml	C066.4APL5
Yttrium	Y	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C067.2NPL03
				100	ml	C067.2NPL1
				250	ml	C067.2NPL25
				500	ml	C067.2NPL5
Ytterbium	Yb	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C068.2NPL03
				100	ml	C068.2NPL1
				250	ml	C068.2NPL25
				500	ml	C068.2NPL5
Zinc	Zn	in 2-5% HCl	1000 mg/l	30	ml	C069.2CPL03
				100	ml	C069.2CPL1
				250	ml	C069.2CPL25
				500	ml	C069.2CPL5
Zinc	Zn	in 2-5% HNO <sub>3</sub>	1000 mg/l	30	ml	C069.2NPL03
				100	ml	C069.2NPL1
				250	ml	C069.2NPL25
				500	ml	C069.2NPL5
Zirconium	Zr	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	30	ml	C070.2N05FPL03
				100	ml	C070.2N05FPL1
				250	ml	C070.2N05FPL25
				500	ml	C070.2N05FPL5
Zirconium	Zr	in 2-5% HCl/HF tr	1000 mg/l	30	ml	C070.5C05FPL03
				100	ml	C070.5C05FPL1
				250	ml	C070.5C05FPL25
				500	ml	C070.5C05FPL5

## 10 000 mg/l for ICP

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C101.5NPL5
				100	ml	C101.5NPL03
				250	ml	C101.5NPL1
				500	ml	C101.5NPL25
Aluminium	Al	in 2-5% HCl	10 000 mg/l	30	ml	C102.5CPL03
				100	ml	C102.5CPL1
				250	ml	C102.5CPL25
				500	ml	C102.5CPL5
Aluminium	Al	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C102.5NPL03
				100	ml	C102.5NPL1
				250	ml	C102.5NPL25
				500	ml	C102.5NPL5
Arsenic	As	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C103.5NPL03
				100	ml	C103.5NPL1
				250	ml	C103.5NPL25
				500	ml	C103.5NPL5
Gold	Au	in 2-5% HCl	10 000 mg/l	30	ml	C104.5CPL03
				100	ml	C104.5CPL03
				250	ml	C104.5CPL1
				500	ml	C104.5CPL25
Boron	B	in H <sub>2</sub> O	10 000 mg/l	30	ml	C105.W.L03
				100	ml	C105.W.L1
				250	ml	C105.W.L25
				500	ml	C105.W.L5
Barium	Ba	in 2-5% HCl	10 000 mg/l	30	ml	C106.5CPL03
				100	ml	C106.5CPL1
				250	ml	C106.5CPL25
				500	ml	C106.5CPL5
Barium	Ba	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C106.2NPL03
				100	ml	C106.2NPL1
				250	ml	C106.2NPL25
				500	ml	C106.2NPL5
Beryllium	Be	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C107.5N1FPL03
				100	ml	C107.5N1FPL1
				250	ml	C107.5N1FPL25
				500	ml	C107.5N1FPL5
Bismuth	Bi	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C108.10NPL03
				100	ml	C108.10NPL1
				250	ml	C108.10NPL25
				500	ml	C108.10NPL5
Calcium	Ca	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C109.2NPL03
				100	ml	C109.2NPL1
				250	ml	C109.2NPL25
				500	ml	C109.2NPL5
Cadmium	Cd	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C110.5NPL03
				100	ml	C110.5NPL1
				250	ml	C110.5NPL25
				500	ml	C110.5NPL5



TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Cerium	Ce	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C111.5NPL03
				100	ml	C111.5NPL1
				250	ml	C111.5NPL25
				500	ml	C111.5NPL5
Cobalt	Co	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C112.5NPL03
				100	ml	C112.5NPL1
				250	ml	C112.5NPL25
				500	ml	C112.5NPL5
Chromium	Cr	in 2-5% HCl	10 000 mg/l	30	ml	C113.5CPL03
				100	ml	C113.5CPL1
				250	ml	C113.5CPL25
				500	ml	C113.5CPL5
Chromium	Cr	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C113.5NPL03
				100	ml	C113.5NPL1
				250	ml	C113.5NPL25
				500	ml	C113.5NPL5
Cesium	Cs	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C114.2NPL03
				100	ml	C114.2NPL1
				250	ml	C114.2NPL25
				500	ml	C114.2NPL5
Cesium	Cs	in H <sub>2</sub> O	10 000 mg/l	30	ml	C114.W.L03
				100	ml	C114.W.L1
				250	ml	C114.W.L25
				500	ml	C114.W.L5
Copper	Cu	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C115.5NPL03
				100	ml	C115.5NPL1
				250	ml	C115.5NPL25
				500	ml	C115.5NPL5
Dysprosium	Dy	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C116.5NPL03
				100	ml	C116.5NPL1
				250	ml	C116.5NPL25
				500	ml	C116.5NPL5
Erbium	Er	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C117.5NPL03
				100	ml	C117.5NPL1
				250	ml	C117.5NPL25
				500	ml	C117.5NPL5
Europium	Eu	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C118.2NPL03
				100	ml	C118.2NPL1
				250	ml	C118.2NPL25
				500	ml	C118.2NPL5
Iron	Fe	in 2-5% HCl	10 000 mg/l	30	ml	C119.5CPL03
				100	ml	C119.5CPL1
				250	ml	C119.5CPL125
				500	ml	C119.5CPL5
Iron	Fe	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C119.5NPL03
				100	ml	C119.5NPL1
				250	ml	C119.5NPL25
				500	ml	C119.5NPL5

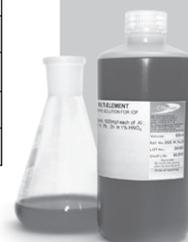
TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Gallium	Ga	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C120.5NPL03
				100	ml	C120.5NPL1
				250	ml	C120.5NPL25
				500	ml	C120.5NPL5
Gadolinium	Gd	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C121.5NPL03
				100	ml	C121.5NPL1
				250	ml	C121.5NPL25
				500	ml	C121.5NPL5
Germanium	Ge	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C122.5N1FPL03
				100	ml	C122.5N1FPL1
				250	ml	C122.5N1FPL25
				500	ml	C122.5N1FPL5
Hafnium	Hf	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C123.5N2FPL03
				100	ml	C123.5N2FPL1
				250	ml	C123.5N2FPL25
				500	ml	C123.5N2FPL5
Mercury	Hg	in 5-10% HNO <sub>3</sub>	10 000 mg/l	30	ml	C124.10NPL03
				100	ml	C124.10NPL1
				250	ml	C124.10NPL25
				500	ml	C124.10NPL5
Holmium	Ho	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C125.5NPL03
				100	ml	C125.5NPL1
				250	ml	C125.5NPL25
				500	ml	C125.5NPL5
Indium	In	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C126.5NPL03
				100	ml	C126.5NPL1
				250	ml	C126.5NPL25
				500	ml	C126.5NPL5
Iridium	Ir	in 5-10% HCl	10 000 mg/l	30	ml	C127.10CPL03
				100	ml	C127.10CPL1
				250	ml	C127.10CPL25
				500	ml	C127.10CPL5
Potassium	K	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C128.2NPL03
				100	ml	C128.2NPL1
				250	ml	C128.2NPL25
				500	ml	C128.2NPL5
Potassium	K	in H <sub>2</sub> O	10 000 mg/l	30	ml	C128.W.L03
				100	ml	C128.W.L1
				250	ml	C128.W.L25
				500	ml	C128.W.L5
Lanthanum	La	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C129.5NPL03
				100	ml	C129.5NPL1
				250	ml	C129.5NPL25
				500	ml	C129.5NPL5
Lithium	Li	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C130.5NPL03
				100	ml	C130.5NPL1
				250	ml	C130.5NPL25
				500	ml	C130.5NPL5



\* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Lutetium	Lu	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C131.5NPL03
				100	ml	C131.5NPL1
				250	ml	C131.5NPL25
				500	ml	C131.5NPL5
Magnesium	Mg	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C132.2NPL03
				100	ml	C132.2NPL1
				250	ml	C132.2NPL25
				500	ml	C132.2NPL5
Manganese	Mn	in 2-5% HCl	10 000 mg/l	30	ml	C133.5CPL03
				100	ml	C133.5CPL1
				250	ml	C133.5CPL25
				500	ml	C133.5CPL5
Manganese	Mn	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C133.5NPL03
				100	ml	C133.5NPL1
				250	ml	C133.5NPL25
				500	ml	C133.5NPL5
Molybdenum	Mo	in 2-5 % NH <sub>4</sub> OH	10 000 mg/l	30	ml	C134.4APL03
				100	ml	C134.4APL1
				250	ml	C134.4APL25
				500	ml	C134.4APL5
Molybdenum	Mo	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C134.5N4FPL03
				100	ml	C134.5N4FPL1
				250	ml	C134.5N4FPL25
				500	ml	C134.5N4FPL5
Sodium	Na	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C135.2NPL03
				100	ml	C135.2NPL1
				250	ml	C135.2NPL25
				500	ml	C135.2NPL5
Sodium	Na	in H <sub>2</sub> O	10 000 mg/l	30	ml	C135.W.L03
				100	ml	C135.W.L1
				250	ml	C135.W.L25
				500	ml	C135.W.L5
Niobium	Nb	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C136.5N5FPL03
				100	ml	C136.5N5FPL1
				250	ml	C136.5N5FPL25
				500	ml	C136.5N5FPL5
Neodymium	Nd	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C137.5N.L03
				100	ml	C137.5N.L1
				250	ml	C137.5N.L25
				500	ml	C137.5N.L5
Nickel	Ni	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C138.5NPL03
				100	ml	C138.5NPL1
				250	ml	C138.5NPL25
				500	ml	C138.5NPL5
Phosphorus	P	in 0,5% H <sub>2</sub> SO <sub>4</sub>	10 000 mg/l	30	ml	C140.05SPL03
				100	ml	C140.005SPL1
				250	ml	C140.005SPL25
				500	ml	C140.005SPL5

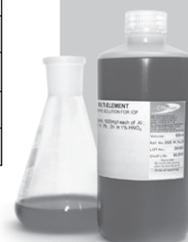
TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Phosphorus	P	in H <sub>2</sub> O	10 000 mg/l	30	ml	C140.W.L03
				100	ml	C140.W.L1
				250	ml	C140.W.L25
				500	ml	C140.W.L5
Lead	Pb	in 2-5% HNO <sub>3</sub>	10 000 mg/l	33	ml	C141.5NPL03
				100	ml	C141.5NPL1
				250	ml	C141.5NPL25
				500	ml	C141.5NPL5
Palladium	Pd	in 5-10% HNO <sub>3</sub>	10 000 mg/l	30	ml	C142.10NPL03
				100	ml	C142.10NPL1
				250	ml	C142.10NPL25
				500	ml	C142.10NPL5
Palladium	Pd	in 2-5% HCl	10 000 mg/l	30	ml	C142.5CPL03
				100	ml	C142.5CPL1
				250	ml	C142.5CPL25
				500	ml	C142.5CPL5
Praseodymium	Pr	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C143.5NPL03
				100	ml	C143.5NPL1
				250	ml	C143.5NPL25
				500	ml	C143.5NPL5
Platinum	Pt	in 10-20% HCl	10 000 mg/l	30	ml	C144.10CPL03
				100	ml	C144.10CPL1
				250	ml	C144.10CPL25
				500	ml	C144.10CPL5
Rubidium	Rb	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C145.2NPL03
				100	ml	C145.2NPL1
				250	ml	C145.2NPL25
				500	ml	C145.2NPL5
Rubidium	Rb	in H <sub>2</sub> O	10 000 mg/l	30	ml	C145.W.L03
				100	ml	C145.W.L1
				250	ml	C145.W.L25
				500	ml	C145.W.L5
Rhenium	Re	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C146.5NPL03
				100	ml	C146.5NPL1
				250	ml	C146.5NPL25
				500	ml	C146.5NPL5
Rhenium	Re	in H <sub>2</sub> O	10 000 mg/l	30	ml	C146.W.L03
				100	ml	C146.W.L1
				250	ml	C146.W.L25
				500	ml	C146.W.L5
Ruthenium	Ru	in 10-20% HCl	10 000 mg/l	30	ml	C148.10CPL03
				100	ml	C148.10CPL1
				250	ml	C148.10CPL25
				500	ml	C148.10CPL5
Sulfur	S	in H <sub>2</sub> O	10 000 mg/l	30	ml	C149.W.L03
				100	ml	C149.W.L1
				250	ml	C149.W.L25
				500	ml	C149.W.L5



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TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Antimony	Sb	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C150.10N2FPL03
				100	ml	C150.10N2FPL1
				250	ml	C150.10N2FPL25
				500	ml	C150.10N2FPL5
Antimony	Sb	in 10-20% HCl	10 000 mg/l	30	ml	C150.20CPL03
				100	ml	C150.20CPL1
				250	ml	C150.20CPL25
				500	ml	C150.20CPL5
Scandium	Sc	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C151.5NPL03
				100	ml	C151.5NPL1
				250	ml	C151.5NPL25
				500	ml	C151.5NPL5
Selenium	Se	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C152.5NPL03
				100	ml	C152.5NPL1
				250	ml	C152.5NPL25
				500	ml	C152.5NPL5
Silicon	Si	in H <sub>2</sub> O	10 000 mg/l	30	ml	C153.W.L03
				100	ml	C153.W.L1
				250	ml	C153.W.L25
				500	ml	C153.W.L5
Samarium	Sm	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C154.2NPL03
				100	ml	C154.2NPL1
				250	ml	C154.2NPL25
				500	ml	C154.2NPL5
Tin	Sn	in 10-20% HCl	10 000 mg/l	30	ml	C155.20CPL03
				100	ml	C155.20CPL1
				250	ml	C155.20CPL25
				500	ml	C155.20CPL5
Tin	Sn	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C155.2N2FPL03
				100	ml	C155.2N2FPL1
				250	ml	C155.2N2FPL25
				500	ml	C155.2N2FPL5
Strontium	Sr	in 2-5% HCl	10 000 mg/l	30	ml	C156.2CPL03
				100	ml	C156.2CPL1
				250	ml	C156.2CPL25
				500	ml	C156.2CPL5
Strontium	Sr	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C156.2NPL03
				100	ml	C156.2NPL1
				250	ml	C156.2NPL25
				500	ml	C156.2NPL5
Tantalum	Ta	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C157.5N2FP03
				100	ml	C157.5N2FPL1
				250	ml	C157.5N2FPL25
				500	ml	C157.5N2FPL5
Terbium	Tb	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C158.5NPL03
				100	ml	C158.5NPL1
				250	ml	C158.5NPL25
				500	ml	C158.5NPL5

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Tellurium	Te	in 10-20% HNO <sub>3</sub>	10 000 mg/l	30	ml	C159.20NPL03
				100	ml	C159.20NPL1
				250	ml	C159.20NPL25
				500	ml	C159.20NPL5
Titanium	Ti	in 2-5% HCl/HF tr	10 000 mg/l	30	ml	C161.5C05FPL03
				100	ml	C161.5C05FPL1
				250	ml	C161.5C05FPL25
				500	ml	C161.5C05FPL5
Titanium	Ti	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C161.5N2FPL03
				100	ml	C161.5N2FPL1
				250	ml	C161.5N2FPL25
				500	ml	C161.5N2FPL5
Thallium	Tl	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C162.5NPL03
				100	ml	C162.5NPL1
				250	ml	C162.5NPL25
				500	ml	C162.5NPL5
Thulium	Tm	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C163.5NPL03
				100	ml	C163.5NPL1
				250	ml	C163.5NPL25
				500	ml	C163.5NPL5
Uranium	U	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C164.5NPL03
				100	ml	C164.5NPL1
				250	ml	C164.5NPL25
				500	ml	C164.5NPL5
Vanadium	V	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C165.5NPL03
				100	ml	C165.5NPL1
				250	ml	C165.5NPL25
				500	ml	C165.5NPL5
Vanadium	V	in 2-5% H <sub>2</sub> SO <sub>4</sub>	10 000 mg/l	30	ml	C165.5SPL03
				100	ml	C165.5SPL1
				250	ml	C165.5SPL25
				500	ml	C165.5SPL5
Tungsten	W	in 5-10% NH <sub>4</sub> OH	10 000 mg/l	30	ml	C166.10APL03
				100	ml	C166.10APL1
				250	ml	C166.10APL25
				500	ml	C166.10APL5
Tungsten	W	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C166.2N5FPL03
				100	ml	C166.2N5FPL1
				250	ml	C166.2N5FPL25
				500	ml	C166.2N5FPL5
Yttrium	Y	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C167.5NPL03
				100	ml	C167.5NPL1
				250	ml	C167.5NPL25
				500	ml	C167.5NPL5
Ytterbium	Yb	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C168.5NPL03
				100	ml	C168.5NPL1
				250	ml	C168.5NPL25
				500	ml	C168.5NPL5



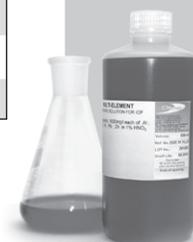
\* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Zinc	Zn	in 2-5% HCl	10 000 mg/l	30	ml	C169.5CPL03
				100	ml	C169.5CPL1
				250	ml	C169.5CPL25
				500	ml	C169.5CPL5
Zinc	Zn	in 2-5% HNO <sub>3</sub>	10 000 mg/l	30	ml	C169.5NPL03
				100	ml	C169.5NPL1
				250	ml	C169.5NPL25
				500	ml	C169.5NPL5
Zirconium	Zr	in 2-5% HCl/HF tr	10 000 mg/l	30	ml	C170.5C2FPL03
				100	ml	C170.5C2FPL1
				250	ml	C170.5C2FPL25
				500	ml	C170.5C2FPL5
Zirconium	Zr	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	30	ml	C170.5N2FPL03
				100	ml	C170.5N2FPL1
				250	ml	C170.5N2FPL25
				500	ml	C170.5N2FPL5

10 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	Ag 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M401.2NPL1
Aluminium	Al	Al(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M402.2NPL1
Arsenic	As	As 99.9999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M403.2NPL1
Gold	Au	Au 99.999%	in 2-5% HCl	10 mg/l	100	ml	M404.2CPL1
Boron	B	(NH <sub>4</sub> ) <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 99.999%	in H <sub>2</sub> O	10 mg/l	100	ml	M405.WL1
Barium	Ba	BaCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M406.2NPL1
Beryllium	Be	Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M407.2NPL1
Bismuth	Bi	Bi 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M408.2NPL1
Calcium	Ca	CaCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M409.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M410.2NPL1
Cerium	Ce	Ce(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M411.2NPL1
Cobalt	Co	Co 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M412.2NPL1
Chromium	Cr	Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M413.2NPL1
Cesium	Cs	CsNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M414.2NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M415.2NPL1
Dysprosium	Dy	Dy <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M416.2NPL1
Erbium	Er	Er <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M417.2NPL1
Europium	Eu	Eu <sub>2</sub> O <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M418.2NPL1
Iron	Fe	Fe(NO <sub>3</sub> ) <sub>3</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M419.2NPL1
Gallium	Ga	Ga 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M420.2NPL1
Gadolinium	Gd	Gd <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M421.2NPL1
Germanium	Ge	Ge 99.999%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M422.2N02FPL1
Hafnium	Hf	HfO <sub>2</sub> 99.995%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M423.2N05FPL1
Mercury	Hg	HgO 99.999+%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M424.5NPL1
Holmium	Ho	HoO <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M425.2NPL1
Indium	In	In 99.999%	in 2-5% HCl	10 mg/l	100	ml	M426.2NPL1

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Iridium	Ir	(NH <sub>4</sub> ) <sub>2</sub> IrCl <sub>6</sub> 99.99%	in 2-5% HCl	10 mg/l	100	ml	M427.2CPL1
Potassium	K	KNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M428.2NPL1
Lanthanum	La	La <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M429.2NPL1
Lithium	Li	Li <sub>2</sub> CO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M430.2NPL1
Lutetium	Lu	Lu <sub>2</sub> O <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M431.2NPL1
Magnesium	Mg	Mg(NO <sub>3</sub> ) <sub>2</sub> , 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M432.2NPL1
Manganese	Mn	Mn(NO <sub>3</sub> ) <sub>2</sub> , 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M433.2NPL1
Molybdenum	Mo	(NH <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub> , 99.999%	in H <sub>2</sub> O	10 mg/l	100	ml	M434.W.L1
Sodium	Na	NaNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M435.2NPL1
Niobium	Nb	Nb 99.99%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M436.2N05FPL1
Neodymium	Nd	Nd <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M437.2NPL1
Nickel	Ni	Ni(NO <sub>3</sub> ) <sub>2</sub> 99.9998%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M438.2NPL1
Phosphorus	P	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%	in H <sub>2</sub> O	10 mg/l	100	ml	M440.W.L1
Lead	Pb	Pb(NO <sub>3</sub> ) <sub>2</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M441.2NPL1
Palladium	Pd	Pd 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M442.2NPL1
Praseodymium	Pr	Pr <sub>6</sub> O <sub>11</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M443.2NPL1
Platinum	Pt	Pt 99.999%	in 2-5% HCl	10 mg/l	100	ml	M444.2CPL1
Rubidium	Rb	RbNO <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M445.2NPL1
Rhenium	Re	Re 99.995+%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M446.2NPL1
Rhodium	Rh	RhCl <sub>3</sub> 99.99%	in 2-5% HCl	10 mg/l	100	ml	M447.2CPL1
Ruthenium	Ru	RuCl <sub>3</sub> 99.99%	in 2-5% HCl	10 mg/l	100	ml	M448.2CPL1
Sulphur	S	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%	in H <sub>2</sub> O	10 mg/l	100	ml	M449.W.L1
Antimony	Sb	Sb 99.999%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M450.2N05FPL1
Scandium	Sc	Sc(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M451.2NPL1
Selenium	Se	Se 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M452.2NPL1
Silicon	Si	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> 99.999%	in H <sub>2</sub> O	10 mg/l	100	ml	M453.W.L1
Samarium	Sm	Sm <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M454.2NPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M455.1N05FPL1
Strontium	Sr	SrCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M456.2NPL1
Tantalum	Ta	Ta 99.99+%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M457.2N05FPL1
Terbium	Tb	Tb(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M458.2NPL1
Tellurium	Te	Te 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M459.2NPL1
Titanium	Ti	(NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub> , 99.998%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M461.2N02FPL1
Thallium	Tl	TlNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M462.2NPL1
Thulium	Tm	Tm <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M463.2NPL1
Uranium	U	UO <sub>2</sub> (OOCCH <sub>3</sub> ) <sub>2</sub> 99.99%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M464.2NPL1
Vanadium	V	NH <sub>4</sub> VO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M465.2NPL1
Tungsten	W	WO <sub>3</sub> 99.999%	in H <sub>2</sub> O/NH <sub>4</sub> OH tr	10 mg/l	100	ml	M466.W.L1
Yttrium	Y	Y <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M467.2NPL1
Ytterbium	Yb	Yb <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M468.2NPL1
Zinc	Zn	Zn 99.999%	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	M469.2NPL1
Zirconium	Zr	ZrO(NO <sub>3</sub> ) <sub>2</sub> 99.99%	in 2-5% HNO <sub>3</sub> /HF tr	10 mg/l	100	ml	M470.2N05FPL1



100 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	Ag 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M301.2NPL1
Aluminium	Al	Al(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M302.2NPL1
Arsenic	As	As 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M303.2NPL1
Gold	Au	Au 99.999%	in 2-5% HCl	100 mg/l	100	ml	M304.2CPL1
Boron	B	(NH <sub>4</sub> ) <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 99.999%	in H <sub>2</sub> O	100 mg/l	100	ml	M305.WL1
Barium	Ba	BaCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M306.2NPL1
Beryllium	Be	Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M307.2NPL05
Bismuth	Bi	Bi 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M308.2NPL1
Calcium	Ca	CaCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M309.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M310.2NPL1
Cerium	Ce	Ce(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M311.2NPL1
Cobalt	Co	Co(NO <sub>3</sub> ) <sub>2</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M312.2NPL1
Chromium	Cr	Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M313.2NPL1
Cesium	Cs	CsNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M314.2NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M315.2NPL1
Dysprosium	Dy	Dy <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M316.2NPL1
Erbium	Er	Er <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M317.2NPL1
Europium	Eu	Eu <sub>2</sub> O <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M318.2NPL1
Iron	Fe	Fe(NO <sub>3</sub> ) <sub>3</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M319.2NPL1
Gallium	Ga	Ga 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M320.2NPL1
Gadolinium	Gd	Gd <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M321.2NPL1
Germanium	Ge	Ge 99.999%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M322.2N02FPL1
Hafnium	Hf	HfO <sub>2</sub> 99.995%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M323.2N05FPL1
Mercury	Hg	HgO 99.999+%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M324.5NPL1
Holmium	Ho	HoO <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M325.2NPL1
Indium	In	In 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M326.2NPL1
Iridium	Ir	(NH <sub>4</sub> ) <sub>2</sub> IrCl <sub>6</sub> 99.99%	in 2-5% HCl	100 mg/l	100	ml	M327.2CPL1
Potassium	K	KNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M328.2NPL1
Lanthanum	La	La <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M329.2NPL1
Lithium	Li	Li <sub>2</sub> CO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M330.2NPL1
Lutetium	Lu	Lu <sub>2</sub> O <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M331.2NPL1
Magnesium	Mg	Mg(NO <sub>3</sub> ) <sub>2</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M332.2NPL1
Manganese	Mn	Mn(NO <sub>3</sub> ) <sub>2</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M333.2NPL1
Molybdenum	Mo	(NH <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub> 99.999%	in H <sub>2</sub> O	100 mg/l	100	ml	M334.WL1
Sodium	Na	NaNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M335.2NPL1
Niobium	Nb	Nb 99.99%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M336.2N05FPL1
Neodymium	Nd	Nd <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M337.2NPL1
Nickel	Ni	Ni 99.9998%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M338.2NPL1
Phosphorus	P	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%	in H <sub>2</sub> O	100 mg/l	100	ml	M340.WL1
Lead	Pb	Pb(NO <sub>3</sub> ) <sub>2</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M341.2NPL1
Palladium	Pd	Pd 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M342.2NPL1
Praseodymium	Pr	Pr <sub>6</sub> O <sub>11</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M343.2NPL1
Platinum	Pt	Pt 99.999%	in 2-5% HCl	100 mg/l	100	ml	M344.2CPL1

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Rubidium	Rb	RbNO <sub>3</sub> 99.99%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M345.2NPL1
Rhenium	Re	Re 99.995+%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M346.2NPL1
Rhodium	Rh	RhCl <sub>3</sub> 99.99%	in 2-5% HCl	100 mg/l	100	ml	M347.2CPL1
Ruthenium	Ru	RuCl <sub>3</sub> 99.99%	in 2-5% HCl	100 mg/l	100	ml	M348.2CPL1
Sulphur	S	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%	in H <sub>2</sub> O	100 mg/l	100	ml	M349.WL1
Antimony	Sb	Sb 99.999%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M350.2N05FPL1
Scandium	Sc	Sc(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M351.2NPL1
Selenium	Se	Se 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M352.2NPL1
Silicon	Si	(NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> 99.999%	in H <sub>2</sub> O	100 mg/l	100	ml	M353.WL1
Samarium	Sm	Sm <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M354.2NPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M355.1N05FPL1
Strontium	Sr	SrCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M356.2NPL1
Tantalum	Ta	Ta 99.99+%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M357.2N05FPL1
Terbium	Tb	Tb(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M358.2NPL1
Tellurium	Te	Te 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M359.2NPL1
Titanium	Ti	(NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub> , 99.998%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M361.2N02FPL1
Thallium	Tl	TlNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M362.2NPL1
Thulium	Tm	Tm <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M363.2NPL1
Uranium	U	UO <sub>2</sub> (OOCCH <sub>3</sub> ) <sub>2</sub> 99.99%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M364.2NPL1
Vanadium	V	NH <sub>4</sub> VO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M365.2NPL1
Tungsten	W	WO <sub>3</sub> 99.999%	in 0,05% NH <sub>3</sub>	100 mg/l	100	ml	M366.WL1
Yttrium	Y	Y <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M367.2NPL1
Ytterbium	Yb	Yb <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M368.2NPL1
Zinc	Zn	Zn 99.9999%	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	M369.2NPL1
Zirconium	Zr	ZrO(NO <sub>3</sub> ) <sub>2</sub> 99.99%	in 2-5% HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	M370.2N05FPL1

*1000 mg/l for ICP-MS*

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Silver	Ag	Ag 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M201.2NPL1
Gold	Au	Au 99.999%	in 2-5% HCl	1000 mg/l	100	ml	M204.2CPL1
Barium	Ba	BaCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M206.2NPL1
Beryllium	Be	Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M207.2NPL1
Bismuth	Bi	Bi 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M208.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M210.2NPL1
Cobalt	Co	Co(NO <sub>3</sub> ) <sub>2</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M212.2NPL1
Chromium	Cr	Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M213.2NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M215.2NPL1
Iron	Fe	Fe(NO <sub>3</sub> ) <sub>3</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M219.2NPL1
Germanium	Ge	Ge 99.999%	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	100	ml	M222.2N2FPL1
Mercury	Hg	HgO 99.999+%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M224.5NPL1
Indium	In	In 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M226.2NPL1
Potassium	K	KNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M228.2NPL1
Lithium	Li	Li <sub>2</sub> CO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M230.2NPL1



\* Custom Standards for ICP & ICP-MS are available upon request.

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Magnesium	Mg	Mg(NO <sub>3</sub> ) <sub>2</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M232.2NPL1
Manganese	Mn	Mn(NO <sub>3</sub> ) <sub>2</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M233.2NPL1
Sodium	Na	NaNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M235.2NPL1
Nickel	Ni	Ni 99.9998%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M238.2NPL1
Phosphorus	P	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%	in H <sub>2</sub> O	1000 mg/l	100	ml	M240.WL1
Lead	Pb	Pb(NO <sub>3</sub> ) <sub>2</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M241.2NPL1
Platinum	Pt	Pt 99.999%	in 2-5% HCl	1000 mg/l	100	ml	M244.2NPL1
Rhodium	Rh	RhCl <sub>3</sub> 99.99%	in 2-5% HCl	1000 mg/l	100	ml	M247.2CPL1
Sulphur	S	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%	in H <sub>2</sub> O	1000 mg/l	100	ml	M249.WL1
Antimony	Sb	Sb 99.999%	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	100	ml	M250.2N05FPL1
Scandium	Sc	Sc(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M251.2NPL1
Selenium	Se	Se 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M252.2NPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	100	ml	M255.1N05FPL1
Strontium	Sr	SrCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M256.2NPL1
Terbium	Tb	Tb(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M258.2NPL1
Titanium	Ti	(NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub> 99.998%	in 2-5% HNO <sub>3</sub> /HF tr	1000 mg/l	100	ml	M261.2N2FPL1
Thallium	Tl	TlNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M262.2NPL1
Vanadium	V	NH <sub>4</sub> VO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M265.2NPL1
Yttrium	Y	Y <sub>2</sub> O <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M267.2NPL1
Zinc	Zn	Zn 99.9999%	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	M269.2NPL1

10 000 mg/l for ICP-MS

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Bismuth	Bi	Bi 99.999%	in 5-10% HNO <sub>3</sub>	10 000 mg/l	100	ml	M108.10NPL1
Calcium	Ca	CaCO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M109.2NPL1
Cadmium	Cd	Cd 99.9999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M110.5NPL1
Cobalt	Co	Co(NO <sub>3</sub> ) <sub>2</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M112.5NPL1
Chromium	Cr	Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M113.5NPL1
Copper	Cu	Cu 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M115.5NPL1
Iron	Fe	Fe(NO <sub>3</sub> ) <sub>3</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M119.5NPL5
Potassium	K	KNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M128.2NPL1
Lithium	Li	Li <sub>2</sub> CO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M130.2NPL1
Magnesium	Mg	Mg(NO <sub>3</sub> ) <sub>2</sub> 99.9995%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M132.2NPL1
Manganese	Mn	Mn(NO <sub>3</sub> ) <sub>2</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M133.5NPL1
Sodium	Na	NaNO <sub>3</sub> 99.999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M135.2NPL1
Phosphorus	P	NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%	in H <sub>2</sub> O	10 000 mg/l	100	ml	M140.WL100
Sulphur	S	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%	in H <sub>2</sub> O	10 000 mg/l	100	ml	M149.WL1
Antimony	Sb	Sb 99.999%	in 5-10% HNO <sub>3</sub> /HF tr	10 000 mg/l	100	ml	M150.10N2FPL1
Tin	Sn	Sn 99.9999%	in 2-5% HNO <sub>3</sub> /HF tr	10 000 mg/l	100	ml	M155.2N2FPL1
Zinc	Zn	Zn 99.9999%	in 2-5% HNO <sub>3</sub>	10 000 mg/l	100	ml	M169.5NPL1

## Specification Standards

TYPE NAME	ELEMENT	STARTING MATERIAL	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
<b>Arsenic (III)</b>	As (III)	As <sub>2</sub> O <sub>3</sub>	in NaOH/NaCl	100 mg/l	100	ml	SP371.05001NC.L1
<b>Arsenic (III)</b>	As (III)	As <sub>2</sub> O <sub>3</sub>	in NaOH/NaCl	1000 mg/l	100	ml	SP071.05001NC.L1
<b>Arsenic (V)</b>	As (III)	As <sub>2</sub> O <sub>5</sub>	in H <sub>2</sub> O	100 mg/l	100	ml	SP372.W.L1
<b>Arsenic (V)</b>	As (III)	As <sub>2</sub> O <sub>5</sub>	in H <sub>2</sub> O	1000 mg/l	100	ml	SP072.W.L1
<b>Chromium (III)</b>	Cr (III)	Cr metal	in 2-5% HNO <sub>3</sub>	10 mg/l	100	ml	SP473.5N.L1
<b>Chromium (III)</b>	Cr (III)	Cr metal	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	SP373.5N.L1
<b>Chromium (III)</b>	Cr (III)	Cr metal	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	SP073.5N.L1
<b>Chromium (III)</b>	Cr (III)	Cr metal	in 2-5% HNO <sub>3</sub>	10000 mg/l	100	ml	SP173.5N.L1
<b>Chromium (VI)</b>	Cr (VI)	(NH <sub>4</sub> ) <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	in H <sub>2</sub> O	100 mg/l	100	ml	SP374.W.L1
<b>Chromium (VI)</b>	Cr (VI)	(NH <sub>4</sub> ) <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	in H <sub>2</sub> O	1000 mg/l	100	ml	SP074.W.L1
<b>Selenium (IV)</b>	Se (IV)	Se metal	in 2-5% HNO <sub>3</sub>	100 mg/l	100	ml	SP375.2N.L1
<b>Selenium (IV)</b>	Se (IV)	Se metal	in 2-5% HNO <sub>3</sub>	1000 mg/l	100	ml	SP075.2N.L1
<b>Selenium (VI)</b>	Se (VI)	Selenic acid	in H <sub>2</sub> O/tr HNO <sub>3</sub>	100 mg/l	100	ml	SP376.01N.L1
<b>Selenium (VI)</b>	Se (VI)	Selenic acid	in H <sub>2</sub> O/tr HNO <sub>3</sub>	1000 mg/l	100	ml	SP076.01N.L1

## Blanks & dilution matrix

TYPE NAME	MATRIX	VOLUME	UNIT	REFERENCE
Blank- Nitric Acid	in 0.5% HNO <sub>3</sub> (v/v)	500	ml	MS6469.0.05N.L5
Blank- Nitric Acid	in 5% HNO <sub>3</sub> (v/v)	500	ml	MS6469.0.5N.L5
High - purity Water		500	ml	MS6469.0.W.L5
Water	in 5% HCl	500	ml	AW.5CPL5
Water	in 5% HNO <sub>3</sub>	500	ml	AW.5NPL5



\* Custom Standards for ICP & ICP-MS are available upon request.

# ICP Multi-Element Standards

## ICP Standards

### ICP Calibration Standards

Standard 33 components		<u>Reference: M8A96.K1.5N.L1</u>		<u>Reference: M8A96.K1.5N.L5</u>			
		Volume: 100 ml Matrix: in 5 % HNO <sub>3</sub>		Volume: 500 ml Matrix: in 5 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Al	100 mg/l	Cs	100 mg/l	Mn	100 mg/l	Sr	100 mg/l
Sb	100 mg/l	Cr	100 mg/l	Mo	100 mg/l	Tl	100 mg/l
As	100 mg/l	Co	100 mg/l	Ni	100 mg/l	Ti	100 mg/l
Ba	100 mg/l	Cu	100 mg/l	Nb	100 mg/l	U	100 mg/l
Be	100 mg/l	In	100 mg/l	K	100 mg/l	V	100 mg/l
Bi	100 mg/l	Fe	100 mg/l	Rb	100 mg/l	Zn	100 mg/l
B	100 mg/l	Pb	100 mg/l	Se	100 mg/l		
Cd	100 mg/l	Li	100 mg/l	Ag	100 mg/l		
Ca	100 mg/l	Mg	100 mg/l	Na	100 mg/l		

Standard 28 components		<u>Reference: MB56A.K1.5N.L05</u>		<u>Reference: MB56A.K1.5N.L1</u>		<u>Reference: MB56A.K1.5N.L5</u>	
		Volume: 50 ml Matrix: in 5 % HNO <sub>3</sub>		Volume: 100 ml Matrix: in 5 % HNO <sub>3</sub>		Volume: 500 ml Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	100 mg/l	Cd	100 mg/l	Li	100 mg/l	Ag	100 mg/l
Al	100 mg/l	Ca	100 mg/l	Mg	100 mg/l	Na	100 mg/l
As	100 mg/l	Co	100 mg/l	Mn	100 mg/l	Sr	100 mg/l
Ba	100 mg/l	Cr	100 mg/l	Mo	100 mg/l	Tl	100 mg/l
Be	100 mg/l	Cu	100 mg/l	Ni	100 mg/l	Ti	100 mg/l
Bi	100 mg/l	Fe	100 mg/l	K	100 mg/l	V	100 mg/l
B	100 mg/l	Pb	100 mg/l	Se	100 mg/l	Zn	100 mg/l

Standard 4 components		<u>Reference: 91C8.1K.2N.L1</u>		<u>Reference: 91C8.1K.2N.L5</u>			
		Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>		Volume: 500 ml Matrix: in 2 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Ca	1000 mg/l	Mg	1000 mg/l	K	1000 mg/l	Na	1000 mg/l

Standard 2 components: P, S		<u>Reference: F4AD.1K.W.L1</u>		<u>Reference: F4AD.1K.W.L5</u>			
		Volume: 100 ml Matrix: in H <sub>2</sub> O		Volume: 500 ml Matrix: in H <sub>2</sub> O			
Element	Concentration	Element	Concentration				
P	1000 mg/l	S	1000 mg/l				

Standard precious metals - 8 components		Reference: A2E5.K1.5C.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 5 % HCl
Element	Concentration	Element	Concentration
Au	100 mg/l	Pt	100 mg/l
Ir	100 mg/l	Re	100 mg/l
Os	100 mg/l	Rh	100 mg/l
Pd	100 mg/l	Ru	100 mg/l

Standard precious metals - 3 components		Reference: C56D.K1.5C.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 5 % HCl
Element	Concentration	Element	Concentration
Au	100 mg/l	Pt	100 mg/l
Pd	100 mg/l		

Calibration Standard 7 - 3 components		Reference: E210.K5.5N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 5 % HNO <sub>3</sub>
Element	Concentration	Element	Concentration
B	500 mg/l	Si	500 mg/l
Mo	500 mg/l		

Calibration Standard - 10 components		Reference: 1E1E.1.2N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 2 % HNO <sub>3</sub>
Element	Concentration	Element	Concentration
P	10 mg/l	Mn	1 mg/l
Ni	5 mg/l	Ba	0.2 mg/l
K	5 mg/l	Ca	0.2 mg/l
Al	1 mg/l	Mg	0.2 mg/l
Cu	1 mg/l	Zn	0.2 mg/l

Calibration Standard - 15 components		Reference: E592.1.2N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 2 % HNO <sub>3</sub>
Element	Concentration	Element	Concentration
B	1 mg/l	Lu	1 mg/l
Ba	1 mg/l	Na	1 mg/l
Co	1 mg/l	Rh	1 mg/l
Fe	1 mg/l	Sc	1 mg/l
Ga	1 mg/l	Tl	1 mg/l
In	1 mg/l	U	1 mg/l
K	1 mg/l	Y	1 mg/l
Li	1 mg/l		

ICP Calibration Standard - Toxic components - 7 components		Reference: 8E66.K1.5N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 5 % HNO <sub>3</sub>
Element	Concentration	Element	Concentration
As	100 mg/l	Pb	100 mg/l
Be	100 mg/l	Se	100 mg/l
Cd	100 mg/l	Tl	100 mg/l
Ni	100 mg/l		

GENESIS Calibration Standard - 22 components		Reference: 3965.2.2N2C.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 2 % HNO <sub>3</sub> / 2 % HCl/ tr. HF
Element	Concentration	Element	Concentration
S	50 mg/l	V	10 mg/l
Ce	10 mg/l	Y	10 mg/l
Cu	10 mg/l	Zr	10 mg/l
Eu	10 mg/l	Mn	5 mg/l
Fe	10 mg/l	Mo	5 mg/l
In	10 mg/l	Na	5 mg/l
K	10 mg/l	Sc	5 mg/l
Ni	10 mg/l	Be	2 mg/l
P	10 mg/l	Li	2 mg/l
Si	10 mg/l	Sr	2 mg/l
Ti	10 mg/l	Ca	1 mg/l

ICP-MS Precious Metals Standard - 8 components		Reference: A2E5.10.5C.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 5 % HCl
Element	Concentration	Element	Concentration
Au	10 mg/l	Pt	10 mg/l
Ir	10 mg/l	Re	10 mg/l
Os	10 mg/l	Rh	10 mg/l
Pd	10 mg/l	Ru	10 mg/l



Calibration Standard - 26 components		Reference: MU01100100	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	100 mg/l	Li	100 mg/l
As	100 mg/l	Mg	100 mg/l
Ba	100 mg/l	Mn	100 mg/l
Be	100 mg/l	Mo	100 mg/l
Bi	100 mg/l	Ni	100 mg/l
B	100 mg/l	K	100 mg/l
Cd	100 mg/l	Se	100 mg/l
Ca	100 mg/l	Na	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Co	100 mg/l	Tl	100 mg/l
Cu	100 mg/l	Ti	100 mg/l
Fe	100 mg/l	V	100 mg/l
Pb	100 mg/l	Zn	100 mg/l

Multi-element standard - 16 components		Reference: MU01060100	
		Volume: 100 ml	
		Matrix: in 10 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	100 mg/l	Fe	20 mg/l
Ba	5 mg/l	Pb	200 mg/l
Be	2 mg/l	Mn	10 mg/l
B	20 mg/l	Ni	50 mg/l
Cd	20 mg/l	Se	5 mg/l
Cr	20 mg/l	Tl	100 mg/l
Co	50 mg/l	V	50 mg/l
Cu	20 mg/l	Zn	50 mg/l

MISA Standard 3 - Tellurium		Reference: AA6C.K1.10C.L1	
		Volume: 100 ml	
		Matrix: in 10 % HCl	
Element	Concentration		
Te	100 mg/l		

Multi-element standard - 4 components		Reference: MU01090100	
		Volume: 100 ml	
		Matrix: in 1 % HCl	
Element	Concentration	Element	Concentration
Ca	100 mg/l	K	150 mg/l
Mg	20 mg/l	Na	3300 mg/l

MISA Standard 1 - Rare Earth Metals - 18 components		Reference: 7027.K1.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ce	100 mg/l	Pr	100 mg/l
Dy	100 mg/l	Sc	100 mg/l
Er	100 mg/l	Sm	100 mg/l
Eu	100 mg/l	Tb	100 mg/l
Gd	100 mg/l	Th	100 mg/l
Ho	100 mg/l	Tm	100 mg/l
La	100 mg/l	U	100 mg/l
Lu	100 mg/l	Y	100 mg/l
Nd	100 mg/l	Yb	100 mg/l

MISA Standard 2 - Precious Metals - 6 components		Reference: 397C.K1.10C.L1	
		Volume: 100 ml	
		Matrix: in 10 % HCl	
Element	Concentration	Element	Concentration
Au	100 mg/l	Pt	100 mg/l
Ir	100 mg/l	Rh	100 mg/l
Pd	100 mg/l	Ru	100 mg/l

MISA Standard 4 - Alkali, Alkaline Earth, Non-Transition Group - 16 components		Reference: 942A.K1.10N.L1	
		Volume: 100 ml	
		Matrix: in 10 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	100 mg/l	In	100 mg/l
As	100 mg/l	Li	100 mg/l
Ba	100 mg/l	Mg	100 mg/l
Bi	100 mg/l	K	100 mg/l
Be	100 mg/l	Rb	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cs	100 mg/l	Na	100 mg/l
Ga	100 mg/l	Sr	100 mg/l

MISA Standard 5 - Fluoride Soluble Group 15 components		Reference: 32D7.K1.5NFL1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> /tr. HF	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Si	100 mg/l
B	100 mg/l	S	100 mg/l
Ge	100 mg/l	Ta	100 mg/l
Hf	100 mg/l	Sn	100 mg/l
Mo	100 mg/l	Ti	100 mg/l
Nb	100 mg/l	W	100 mg/l
P	100 mg/l	Zr	100 mg/l
Re	100 mg/l		

MISA Standard 6 - Transition Metals - 13 components		Reference: E579.K1.10N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 10 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Cd	100 mg/l	Hg	100 mg/l
Co	100 mg/l	Ni	100 mg/l
Cu	100 mg/l	Ag	100 mg/l
Cr	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	V	100 mg/l
Pb	100 mg/l	Zn	100 mg/l
Mn	100 mg/l		

Continuing Calibration Verification for CLP - 5 components		Reference: 30A8.50.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	50 mg/l	Pb	25 mg/l
Tl	50 mg/l	Se	25 mg/l
Cd	25 mg/l		

Continuing Calibration Verification for CLP - 16 components		Reference: 199B.50.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	2500 mg/l	V	250 mg/l
Mg	2500 mg/l	Ni	200 mg/l
K	2500 mg/l	Cu	125 mg/l
Na	2500 mg/l	Zn	100 mg/l
Al	1000 mg/l	Mn	75 mg/l
Ba	1000 mg/l	Cr	50 mg/l
Fe	500 mg/l	Ag	50 mg/l
Co	250 mg/l	Be	25 mg/l

Continuing Calibration Verification Standard - 16 components		Reference: AC25.K125.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	2500 mg/l	V	250 mg/l
Mg	2500 mg/l	Co	250 mg/l
Na	2500 mg/l	Ni	250 mg/l
K	2500 mg/l	Zn	250 mg/l
Al	1000 mg/l	Ag	125 mg/l
Ba	1000 mg/l	Cu	125 mg/l
Fe	500 mg/l	Cr	100 mg/l
Mn	250 mg/l	Be	25 mg/l



\* Custom Standards for ICP & ICP-MS are available upon request.

## Quality Control Standards for ICP

Quality Control Standard 1 - 23 components		Reference: B0D3.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> /tr. HF	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Mn	100 mg/l
As	100 mg/l	Mo	100 mg/l
Be	100 mg/l	Ni	100 mg/l
Cd	100 mg/l	P	100 mg/l
Ca	100 mg/l	Se	100 mg/l
Cr	100 mg/l	Sr	100 mg/l
Co	100 mg/l	Sn	100 mg/l
Cu	100 mg/l	Tl	100 mg/l
Fe	100 mg/l	Ti	100 mg/l
Pb	100 mg/l	V	100 mg/l
Li	100 mg/l	Zn	100 mg/l
Mg	100 mg/l		

Quality Control Standard 2R - 7 components		Reference: 01EC.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> /tr. HF	
Element	Concentration	Element	Concentration
Al	100 mg/l	Si	100 mg/l
Ba	100 mg/l	Ag	100 mg/l
B	100 mg/l	Na	100 mg/l
K	100 mg/l		

Quality Control Standard 3 - 15 components		Reference: CF34.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> /tr. HF	
Element	Concentration	Element	Concentration
Al	100 mg/l	Pb	100 mg/l
Ba	100 mg/l	Mg	100 mg/l
Cd	100 mg/l	Mn	100 mg/l
Ca	100 mg/l	Ni	100 mg/l
Cr	100 mg/l	Na	100 mg/l
Co	100 mg/l	Ti	100 mg/l
Cu	100 mg/l	Zn	100 mg/l
Fe	100 mg/l		

Quality Control Standard 4 - 19 components		Reference: 4176.50.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Bi	200 mg/l	Co	20 mg/l
In	200 mg/l	Cu	20 mg/l
Pb	200 mg/l	Zn	20 mg/l
Ga	150 mg/l	B	15 mg/l
Al	100 mg/l	Fe	15 mg/l
Ag	50 mg/l	Ba	5 mg/l
Ni	50 mg/l	Mn	5 mg/l
Tl	40 mg/l	Be	1 mg/l
Cr	25 mg/l	Sr	1 mg/l
Cd	20 mg/l		

Quality Control Standard 5 - 3 components		Reference: A895.10K.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	10000 mg/l	Li	250 mg/l
Na	1000 mg/l		

Quality Control Standard 6 - 4 components		Reference: F9B8.1K.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	1000 mg/l	Mg	1000 mg/l
Ca	1000 mg/l	Sr	1000 mg/l

Quality Control Standard 24 - 22 components		Reference: 3865.10.10N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 10 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	10 mg/l	Fe	10 mg/l
Ba	10 mg/l	Pb	10 mg/l
Bi	10 mg/l	Li	10 mg/l
B	10 mg/l	Mg	10 mg/l
Cd	10 mg/l	Mn	10 mg/l
Ca	10 mg/l	Mo	10 mg/l
Cr	10 mg/l	K	10 mg/l
Co	10 mg/l	Ag	10 mg/l
Cu	10 mg/l	Na	10 mg/l
Ga	10 mg/l	Tl	10 mg/l
In	10 mg/l	Zn	10 mg/l

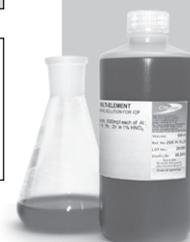
QC Multi 22 components		Reference: M52B5.1.5N.L1 Volume: 100 ml Matrix: in 5% HNO <sub>3</sub>			Reference: M52B5.1.5N.L5 Volume: 500 ml Matrix: in 5% HNO <sub>3</sub>		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	1 mg/l	Co	1 mg/l	Mg	1 mg/l	Tl	1 mg/l
As	1 mg/l	Cr	1 mg/l	Mn	1 mg/l	Ti	1 mg/l
Be	1 mg/l	Cu	1 mg/l	Mo	1 mg/l	V	1 mg/l
Bi	1 mg/l	Fe	1 mg/l	Ni	1 mg/l	Zn	1 mg/l
Cd	1 mg/l	Pb	1 mg/l	Se	1 mg/l		
Ca	1 mg/l	Li	1 mg/l	Sr	1 mg/l		

QC Multi 28 components		Reference: MB56A.1.2N.L1 Volume: 100 ml Matrix: in 2% HNO <sub>3</sub>			Reference: MB56A.1.2N.L5 Volume: 500 ml Matrix: in 2% HNO <sub>3</sub>		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	1 mg/l	Cd	1 mg/l	Pb	1 mg/l	Ag	1 mg/l
Al	1 mg/l	Ca	1 mg/l	Mg	1 mg/l	Na	1 mg/l
As	1 mg/l	Cr	1 mg/l	Mn	1 mg/l	Sr	1 mg/l
B	1 mg/l	Co	1 mg/l	Mo	1 mg/l	Tl	1 mg/l
Ba	1 mg/l	Cu	1 mg/l	Ni	1 mg/l	Ti	1 mg/l
Be	1 mg/l	Fe	1 mg/l	K	1 mg/l	V	1 mg/l
Bi	1 mg/l	Li	1 mg/l	Se	1 mg/l	Zn	1 mg/l

QC Multi 33 components		Reference: M8A96.1.5N.L1 Volume: 100 ml Matrix: in 5% HNO <sub>3</sub>			Reference: M8A96.1.5N.L5 Volume: 500 ml Matrix: in 5% HNO <sub>3</sub>		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Sb	1 mg/l	Cs	1 mg/l	Mn	1 mg/l	Sr	1 mg/l
Al	1 mg/l	Cr	1 mg/l	Mo	1 mg/l	Tl	1 mg/l
As	1 mg/l	Co	1 mg/l	Ni	1 mg/l	Ti	1 mg/l
Ba	1 mg/l	Cu	1 mg/l	Nb	1 mg/l	U	1 mg/l
Be	1 mg/l	In	1 mg/l	K	1 mg/l	V	1 mg/l
Bi	1 mg/l	Fe	1 mg/l	Rb	1 mg/l	Zn	1 mg/l
B	1 mg/l	Pb	1 mg/l	Se	1 mg/l		
Cd	1 mg/l	Li	1 mg/l	Ag	1 mg/l		
Ca	1 mg/l	Mg	1 mg/l	Na	1 mg/l		

QC precious metals		Reference: M397C.1.2C.L1 Volume: 100 ml Matrix: in 2% HCl			Reference: M397C.1.2C.L5 Volume: 500 ml Matrix: in 2% HCl		
Element	Concentration	Element	Concentration	Element	Concentration	Element	Concentration
Au	1 mg/l	Rh	1 mg/l	Na	1 mg/l	V	1 mg/l
Ir	1 mg/l	Ru	1 mg/l	Sr	1 mg/l	Zn	1 mg/l
Pd	1 mg/l	Se	1 mg/l	Tl	1 mg/l		
Pt	1 mg/l	Ag	1 mg/l	Ti	1 mg/l		

Hg - Mercury		Reference: ESD0BC.K5.5N.L1 Volume: 100 ml Matrix: in 5% HNO <sub>3</sub>			Reference: ESD0BC.K5.5N.L5 Volume: 500 ml Matrix: in 5% HNO <sub>3</sub>		
Element	Concentration						
Hg	0.5 mg/l						



\* Custom Standards for ICP & ICP-MS are available upon request.

## Tuning Solutions

Tuning Solution - 15 components		Reference: 2197.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
B	10 mg/l	Lu	10 mg/l
Ba	10 mg/l	K	10 mg/l
Co	10 mg/l	Rh	10 mg/l
Ga	10 mg/l	Sc	10 mg/l
In	10 mg/l	Na	10 mg/l
Fe	10 mg/l	Th	10 mg/l
Li	10 mg/l		

CIROS Tuning Solution - 9 components		Reference: 5EC8.10.5C2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HCl/2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
S	50 mg/l	Sc	10 mg/l
Fe	10 mg/l	Ti	10 mg/l
K	10 mg/l	Mg	5 mg/l
La	10 mg/l	Mn	5 mg/l
P	10 mg/l		

## Initial Calibration Verification

ICV-2A - 16 components		Reference: 5927.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Mg	2000 mg/l	V	500 mg/l
Na	2000 mg/l	Cr	200 mg/l
Al	1000 mg/l	Cu	200 mg/l
Ba	1000 mg/l	Ag	100 mg/l
Fe	1000 mg/l	Be	100 mg/l
Co	500 mg/l	Mn	100 mg/l
Ni	500 mg/l	Zn	100 mg/l

ICV-2C - 5 components		Reference: A186.K5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	500 mg/l	Tl	500 mg/l
Pb	500 mg/l	Cd	100 mg/l
Se	500 mg/l		

# ICP-MS Standards

## ICP-MS Calibration Standards

Standard 8 elements		Reference: MSBD60.10.2N01F.L1 Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub> /HF tr	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Te	10 mg/l
Ge	10 mg/l	Sn	10 mg/l
Hf	10 mg/l	W	10 mg/l
Mo	10 mg/l	Zr	10 mg/l

Standard 31 elements		Reference: MSE194.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	10 mg/l	Mn	10 mg/l
As	10 mg/l	Nd	10 mg/l
Ba	10 mg/l	Ni	10 mg/l
B	10 mg/l	P	10 mg/l
Cd	10 mg/l	Pb	10 mg/l
Ce	10 mg/l	Rb	10 mg/l
Co	10 mg/l	Se	10 mg/l
Cr	10 mg/l	Ag	10 mg/l
Cu	10 mg/l	Sm	10 mg/l
Dy	10 mg/l	Sr	10 mg/l
Er	10 mg/l	Tl	10 mg/l
Gd	10 mg/l	Tm	10 mg/l
Ho	10 mg/l	U	10 mg/l
La	10 mg/l	V	10 mg/l
Li	10 mg/l	Zn	10 mg/l
Lu	10 mg/l		

Initial Calibration Verification Standard 2 - 2 components		Reference: 1F15.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sn	10 mg/l	Ti	10 mg/l

Standard 18 elements		Reference: MSBEDC.10.2N.L1 Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	10 mg/l	Ni	10 mg/l
As	10 mg/l	Pb	10 mg/l
Ba	10 mg/l	Se	10 mg/l
Be	10 mg/l	Ag	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Co	10 mg/l	U	10 mg/l
Cu	10 mg/l	V	10 mg/l
Mn	10 mg/l	Zn	10 mg/l

Standard 5 elements		Reference: MS13BF.1K.2N.L1 Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	K	1000 mg/l
Fe	1000 mg/l	Na	1000 mg/l
Mg	1000 mg/l		

Standard 4 elements precious metals		Reference: MS91C8.1K.2N.L1 Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	K	1000 mg/l
Mg	1000 mg/l	Na	1000 mg/l



Initial Calibration Verification Standard 1 - 26 components		Reference: E738.K1.10N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cr	10 mg/l
Fe	1000 mg/l	Cu	10 mg/l
K	1000 mg/l	Mn	10 mg/l
Mg	1000 mg/l	Mo	10 mg/l
Na	1000 mg/l	Ni	10 mg/l
Sr	1000 mg/l	Pb	10 mg/l
Ag	10 mg/l	Sb	10 mg/l
Al	10 mg/l	Se	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l

ICP-MS Calibration Standard - 10 components		Reference: D743.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	10 mg/l	In	10 mg/l
Be	10 mg/l	Li	10 mg/l
Bi	10 mg/l	Ni	10 mg/l
Ce	10 mg/l	Pb	10 mg/l
Co	10 mg/l	U	10 mg/l

ICP-MS Calibration Standard - 5 components		Reference: 1ADA.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	10 mg/l	Li	10 mg/l
Fe	10 mg/l	Na	10 mg/l
K	10 mg/l		

ICP-MS Instrument Calibration Standard 1A - 20 components		Reference: E85B.10.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> / tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Se	50 mg/l	Pb	10 mg/l
Al	10 mg/l	Mn	10 mg/l
Sb	10 mg/l	Mo	10 mg/l
As	10 mg/l	Ni	10 mg/l
Ba	10 mg/l	Ag	10 mg/l
Be	10 mg/l	Tl	10 mg/l
Cd	10 mg/l	Th	10 mg/l
Cr	10 mg/l	U	10 mg/l
Co	10 mg/l	V	10 mg/l
Cu	10 mg/l	Zn	10 mg/l

ICP Multi-Element Standard Solution XX for MS - 11 components		Reference: CEB3.1.1N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 1 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Mg	1 mg/l	Tl	1 mg/l
Cu	1 mg/l	Ce	1 mg/l
Cd	1 mg/l	Ge	1 mg/l
Pb	1 mg/l	Tb	1 mg/l
Sc	1 mg/l	Ba	1 mg/l
Rh	1 mg/l		

ICP-MS Refractory Elements Standard - 12 components		Reference: 058E.10.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 1 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ge	10 mg/l	Sn	10 mg/l
Hf	10 mg/l	Ta	10 mg/l
Mo	10 mg/l	Te	10 mg/l
Nb	10 mg/l	Ti	10 mg/l
Sb	10 mg/l	W	10 mg/l
Si	10 mg/l	Zr	10 mg/l

## Quality Control Standards for ICP-MS

QC-MS 31 elements		Reference: MSE194.D01.1N.L1		Reference: MSE194.D01.1N.L5	
		Volume: 100 ml Matrix: in 1 % HNO <sub>3</sub>		Volume: 500 ml Matrix: in 1 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration	Element	Concentration
Al	0.01 mg/l	Cu	0.01 mg/l	Lu	0.01 mg/l
As	0.01 mg/l	Dy	0.01 mg/l	Mn	0.01 mg/l
Ba	0.01 mg/l	Er	0.01 mg/l	Ni	0.01 mg/l
B	0.01 mg/l	Gd	0.01 mg/l	Nb	0.01 mg/l
Cd	0.01 mg/l	Ho	0.01 mg/l	P	0.01 mg/l
Ce	0.01 mg/l	La	0.01 mg/l	Rb	0.01 mg/l
Cr	0.01 mg/l	Pb	0.01 mg/l	Sm	0.01 mg/l
Co	0.01 mg/l	Li	0.01 mg/l	Se	0.01 mg/l
				Ag	0.01 mg/l
				Sr	0.01 mg/l
				Tl	0.01 mg/l
				Tm	0.01 mg/l
				U	0.01 mg/l
				V	0.01 mg/l
				Zn	0.01 mg/l

QC-MS Hg		Reference: MSD0BC.D01.2N.L1		Reference: MSD0BC.D01.2N.L5	
		Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>		Volume: 500 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration				
Hg	0.01 mg/l				

QC-MS 18 elements		Reference: MSBEDC.D01.1N.L1		Reference: SBEDC.D01.1N.L5	
		Volume: 100 ml Matrix: in 1 % HNO <sub>3</sub>		Volume: 500 ml Matrix: in 1 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration	Element	Concentration
Al	0.01 mg/l	Cr	0.01 mg/l	Ni	0.01 mg/l
As	0.01 mg/l	Co	0.01 mg/l	Se	0.01 mg/l
Ba	0.01 mg/l	Cu	0.01 mg/l	Ag	0.01 mg/l
Be	0.01 mg/l	Pb	0.01 mg/l	Tl	0.01 mg/l
Cd	0.01 mg/l	Mn	0.01 mg/l	Th	0.01 mg/l
				U	0.01 mg/l
				V	0.01 mg/l
				Zn	0.01 mg/l

QC-MS 18 elements		Reference: MSBEDC.10.2N.L1	
		Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	10 mg/l	Mn	10 mg/l
As	10 mg/l	Ni	10 mg/l
Ba	10 mg/l	Se	10 mg/l
Be	10 mg/l	Ag	10 mg/l
Cd	10 mg/l	Tl	10 mg/l
Cr	10 mg/l	Th	10 mg/l
Co	10 mg/l	U	10 mg/l
Cu	10 mg/l	V	10 mg/l
Pb	10 mg/l	Zn	10 mg/l

QC-MS Multi 8 elements		Reference: MSBD60.10.2N01FL1	
		Volume: 100 ml Matrix: in 2 % HNO <sub>3</sub> /0.1% HF	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Te	10 mg/l
Ge	10 mg/l	Sn	10 mg/l
Hf	10 mg/l	W	10 mg/l
Mo	10 mg/l	Zr	10 mg/l



## Internal Standard for ICP-MS

TYPE NAME	ELEMENT	MATRIX	CONCENTRATION	VOLUME	UNIT	REFERENCE
Internal Standard Solumass™	<b>Be</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS6925.1K.2N.L1
Internal Standard Solumass™	<b>Bi</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS3926.K1.2N.L1
Internal Standard Solumass™	<b>Cs</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MSE11C.K1.2N.L1
Internal Standard Solumass™	<b>Eu</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS6994.K1.2N.L1
Internal Standard Solumass™	<b>Ga</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS59E8.1K.2N.L1
Internal Standard Solumass™	<b>Ge</b>	in 2 %HNO <sub>3</sub> /HF tr	100 mg/l	100	ml	MS69E9.K1.2N.L1
Internal Standard Solumass™	<b>Au</b>	in 2% HCl	100 mg/l	100	ml	MSA965.K1.2C.L1
Internal Standard Solumass™	<b>Ho</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MSB0BE.K1.2N.L1
Internal Standard Solumass™	<b>In</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS8C82.K1.2N.L1
Internal Standard Solumass™	<b>Pr</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MSDE98.K1.2N.L1
Internal Standard Solumass™	<b>Re</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MSAAE4.K1.2N.L1
Internal Standard Solumass™	<b>Rh</b>	in 2% HCl	100 mg/l	100	ml	MS06E6.K1.2C.L1
Internal Standard Solumass™	<b>Sc</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MSE2D9.K1.2N.L1
Internal Standard Solumass™	<b>Tb</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MSDE6D.K1.2N.L1
Internal Standard Solumass™	<b>Th</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS066E.K1.2N.L1
Internal Standard Solumass™	<b>Yb</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS1837.K1.2N.L1
Internal Standard Solumass™	<b>Y</b>	in 2 %HNO <sub>3</sub>	100 mg/l	100	ml	MS1F40.K1.2N.L1

ICP-MS Internal Standard 2 - 8 components		Reference: 7556.10.N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 2 % HNO <sub>3</sub>
Element	Concentration	Element	Concentration
<b>Bi</b>	10 mg/l	<b>Sc</b>	10 mg/l
<b>Ho</b>	10 mg/l	<b>Tb</b>	10 mg/l
<b>In</b>	10 mg/l	<b>Y</b>	10 mg/l
<b>6Li</b>	10 mg/l	<b>Rh</b>	10 mg/l

ICP-MS Alternate Internal Standard 1 - 7 components		Reference: B55E.10.N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 5 % HNO <sub>3</sub> (v/v)
Element	Concentration	Element	Concentration
<b>6Li</b>	10 mg/l	<b>In</b>	10 mg/l
<b>Sc</b>	10 mg/l	<b>Tb</b>	10 mg/l
<b>Ge</b>	10 mg/l	<b>Bi</b>	10 mg/l
<b>Y</b>	10 mg/l		

ICP-MS Alternate Internal Standard 2 - 8 components		Reference: E738.K1.10N.L1	
		<b>Volume:</b>	100 ml
		<b>Matrix:</b>	in 10 % HNO <sub>3</sub> (v/v)
Element	Concentration	Element	Concentration
<b>Bi</b>	100 mg/l	<b>Lu</b>	100 mg/l
<b>Ge</b>	100 mg/l	<b>Rh</b>	100 mg/l
<b>In</b>	100 mg/l	<b>Sc</b>	100 mg/l
<b>6Li</b>	100 mg/l	<b>Tb</b>	100 mg/l

# Instrument Check Standards

## Instrument Check Standards

<b>Spiking Standard 1R - 4 components</b>			
<b>Reference:</b> D543.K4.5N.L5			
<b>Volume:</b> 500 ml			
<b>Matrix:</b> in 5 % HNO <sub>3</sub> /tr. HF			
Element	Concentration	Element	Concentration
Si	2000 mg/l	P	400 mg/l
B	400 mg/l	Mo	200 mg/l

<b>Spiking Standard 2R - 4 components</b>			
<b>Reference:</b> 91C8.10K.2N.L1			
<b>Volume:</b> 100 ml			
<b>Matrix:</b> in 2 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration
Ca	10 000 mg/l	K	10 000 mg/l
Mg	10 000 mg/l	Na	10 000 mg/l

<b>Spiking Standard 4R - Sb</b>	
<b>Reference:</b> 1ED8.K2.2N.L1	
<b>Volume:</b> 100 ml	
<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration
Sb	200 mg/l

<b>Spiking Standard 5R - 5 components</b>			
<b>Reference:</b> F373.K2.5N.L1			
<b>Volume:</b> 100 ml			
<b>Matrix:</b> in 5 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration
Se	400 mg/l	Pb	200 mg/l
Tl	400 mg/l	Cd	100 mg/l
As	200 mg/l		

<b>Spiking Standard 3 - 12 components</b>			
<b>Reference:</b> 4554.50.5N.L1			
<b>Volume:</b> 100 ml			
<b>Matrix:</b> in 5 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration
Al	2000 mg/l	V	500 mg/l
Ba	2000 mg/l	Zn	500 mg/l
Fe	1000 mg/l	Cu	250 mg/l
Co	500 mg/l	Cr	200 mg/l
Mn	500 mg/l	Be	50 mg/l
Ni	500 mg/l	Ag	50 mg/l

<b>Instrument Check Standard 1 - 9 components</b>			
<b>Reference:</b> 9EF9.K1.2N.L1			
<b>Volume:</b> 100 ml			
<b>Matrix:</b> in 2 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration
P	1000 mg/l	Ba	10 mg/l
Al	100 mg/l	Be	10 mg/l
B	100 mg/l	Ca	10 mg/l
Ni	100 mg/l	Sc	10 mg/l
Zn	100 mg/l		

<b>Instrument Check Standard 2 - 7 components</b>			
<b>Reference:</b> 4855.50.2N.L1			
<b>Volume:</b> 100 ml			
<b>Matrix:</b> in 2 % HNO <sub>3</sub>			
Element	Concentration	Element	Concentration
Ba	50 mg/l	Ni	20 mg/l
Be	20 mg/l	Sc	20 mg/l
La	20 mg/l	Zn	20 mg/l
Mn	20 mg/l		

<b>Instrument Check Standard 3 - 11 components</b>			
<b>Reference:</b> 198A.20.2N.L1			
<b>Volume:</b> 100 ml			
<b>Matrix:</b> in 2 % HNO <sub>3</sub> /tr. HF			
Element	Concentration	Element	Concentration
P	100 mg/l	Mn	20 mg/l
K	100 mg/l	Mo	20 mg/l
S	100 mg/l	Ni	20 mg/l
As	20 mg/l	Sc	20 mg/l
La	20 mg/l	Na	20 mg/l
Li	20 mg/l		



Instrument Check Standard 4 - 12 components		Reference: 735EK1.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	500 mg/l	Mn	100 mg/l
Al	100 mg/l	Ni	100 mg/l
As	100 mg/l	P	100 mg/l
Ba	100 mg/l	Sc	100 mg/l
Cu	100 mg/l	Na	100 mg/l
Pb	100 mg/l	Zn	100 mg/l

Instrument Check Standard 5 - 15 components		Reference: 6C97.K1.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Y	600 mg/l	Pb	100 mg/l
Al	100 mg/l	Mg	100 mg/l
As	100 mg/l	Mn	100 mg/l
Cd	100 mg/l	Ni	100 mg/l
Cr	100 mg/l	K	100 mg/l
Co	100 mg/l	Na	100 mg/l
Cu	100 mg/l	Zn	100 mg/l
Fe	100 mg/l		

Instrument Check Standard - 9 components		Reference: A479.50.2N.L1		Reference: A479.50.2N.L5	
		<b>Volume:</b> 100 ml		<b>Volume:</b> 500 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration	Element	Concentration
Al	50 mg/l	Co	50 mg/l	P	50 mg/l
As	50 mg/l	Cu	50 mg/l	K	50 mg/l
Cr	50 mg/l	Pb	50 mg/l	Na	50 mg/l

Instrument Check Standard 7 - 7 components		Reference: AAB1.50.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	500 mg/l	Cu	50 mg/l
Al	50 mg/l	Mn	50 mg/l
Ba	50 mg/l	Zn	50 mg/l
Cd	50 mg/l		

Instrument Check Standard - 12 components		Reference: 8636.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	50 mg/l	Ni	10 mg/l
Al	10 mg/l	P	10 mg/l
As	10 mg/l	Pb	10 mg/l
Cu	10 mg/l	Sc	10 mg/l
Mn	10 mg/l	Zn	10 mg/l
Na	10 mg/l	Ba	1 mg/l

### *Quantitation Detection Limit Standard*

Contract Required Detection Limit Standard - 9 components		Reference: 96D3.K2.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Co	1000 mg/l	Mn	300 mg/l
V	1000 mg/l	Ag	200 mg/l
Ni	800 mg/l	Cr	200 mg/l
Cu	500 mg/l	Be	100 mg/l
Zn	400 mg/l		

Contract Required Detection Limit Standard - 5 components		Reference: 922B.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	100 mg/l	Se	50 mg/l
Tl	100 mg/l	Pb	30 mg/l
Cd	50 mg/l		

Contract Required Detection Limit Standard for CLP - 23 components		Reference: EC46.1.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	500 mg/l	Ni	4 mg/l
Mg	500 mg/l	Se	3.5 mg/l
Na	500 mg/l	Tl	2.5 mg/l
K	500 mg/l	Cu	2.5 mg/l
Al	20 mg/l	As	1.5 mg/l
Ba	20 mg/l	Mn	1.5 mg/l
Fe	10 mg/l	Ag	1 mg/l
Zn	6 mg/l	Pb	1 mg/l
Li	5 mg/l	Cr	1 mg/l
Co	5 mg/l	Be	0.5 mg/l
Sr	5 mg/l	Cd	0.5 mg/l
V	5 mg/l		

Contract Required Detection Limit Standard for CLP - 16 components		Reference: B752.1.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Be	1 mg/l
Se	5 mg/l	Cd	1 mg/l
Cr	2 mg/l	Co	1 mg/l
Cu	2 mg/l	Mn	1 mg/l
Sb	2 mg/l	Ni	1 mg/l
Zn	2 mg/l	Pb	1 mg/l
Ag	1 mg/l	Tl	1 mg/l
As	1 mg/l	V	1 mg/l

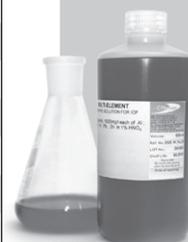
ICP Contract Required Detection Limit Standard 2 for CLP - 16 components		Reference: 968A.20.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Fe	200 mg/l	Tl	50 mg/l
Sb	120 mg/l	Mn	30 mg/l
Zn	120 mg/l	As	20 mg/l
Co	100 mg/l	Cr	20 mg/l
V	100 mg/l	Pb	20 mg/l
Ni	80 mg/l	Ag	20 mg/l
Se	70 mg/l	Be	10 mg/l
Cu	50 mg/l	Cd	10 mg/l

ICP Contract Required Detection Limit Standard 2A - 6 components		Reference: CBBB.K2.10N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	5000 mg/l	Na	5000 mg/l
Mg	5000 mg/l	Al	200 mg/l
K	5000 mg/l	Ba	200 mg/l

Contract Required Detection Limits (CRDL)		Reference: 8005.20.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sb	120 mg/l	As	20 mg/l
Co	100 mg/l	Cr	20 mg/l
V	100 mg/l	Tl	20 mg/l
Ni	80 mg/l	Be	10 mg/l
Cu	50 mg/l	Cd	10 mg/l
Zn	40 mg/l	Se	10 mg/l
Mn	30 mg/l	Pb	6 mg/l
Ag	20 mg/l		

ICP-MS Contract Required Detection Limit Standard 2 - 22 components		Reference: 9781.2.5NTFL1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> / tr.HF/tr. Tart. Ac	
Element	Concentration	Element	Concentration
Ca	1000 mg/l	Cu	4 mg/l
Mg	1000 mg/l	Zn	4 mg/l
K	1000 mg/l	As	2 mg/l
Na	1000 mg/l	Be	2 mg/l
Fe	400 mg/l	Cd	2 mg/l
Al	40 mg/l	Co	2 mg/l
Ba	20 mg/l	Pb	2 mg/l
Se	10 mg/l	Mn	2 mg/l
V	10 mg/l	Ni	2 mg/l
Sb	4 mg/l	Ag	2 mg/l
Cr	4 mg/l	Tl	2 mg/l

Contract Required Quantitation Limit Standard for CLP - MS - 17 components		Reference: 1F00.1.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	30 mg/l	Cd	1 mg/l
Ba	10 mg/l	Ni	1 mg/l
Se	5 mg/l	Pb	1 mg/l
Cr	2 mg/l	Tl	1 mg/l
Cu	2 mg/l	V	1 mg/l
Sb	2 mg/l	Zn	1 mg/l
Ag	1 mg/l	Co	0.5 mg/l
As	1 mg/l	Mn	0.5 mg/l
Be	1 mg/l		



\* Custom Standards for ICP & ICP-MS are available upon request.

ICP-MS Contract Required Detection Limit Standard 1 - 22 components		Reference: A536.1.5NT.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> / tr.HF/tr. Tart. Ac	
Element	Concentration	Element	Concentration
Ca	500 mg/l	Cu	2.5 mg/l
K	500 mg/l	Zn	2 mg/l
Mg	500 mg/l	Mn	1.5 mg/l
Na	500 mg/l	Ag	1 mg/l
Al	20 mg/l	As	1 mg/l
Ba	20 mg/l	Cr	1 mg/l
Fe	10 mg/l	Tl	1 mg/l
Sb	6 mg/l	Be	0.5 mg/l
Co	5 mg/l	Cd	0.5 mg/l
V	5 mg/l	Se	0.5 mg/l
Ni	4 mg/l	Pb	0.3 mg/l

### Interference Check

Interference Check Standard 1 - 17 components		Reference: 8F59.K3.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	20000 mg/l	Cu	300 mg/l
As	1000 mg/l	Ni	300 mg/l
Pb	1000 mg/l	Ag	300 mg/l
Tl	1000 mg/l	V	300 mg/l
Se	500 mg/l	Zn	300 mg/l
Ba	300 mg/l	Mn	200 mg/l
Cd	300 mg/l	Be	100 mg/l
Cr	300 mg/l	Hg	50 mg/l
Co	300 mg/l		

Interference Check Standard 2 - 4 components		Reference: 4AF7.K5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Tl	1000 mg/l	Mo	300 mg/l
B	500 mg/l	Si	200 mg/l

Interference Check Standard 3 - Sb		Reference: 1ED8.K5.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration		
Sb	500 mg/l		

### Initial Calibration Verification Standards

ICP-MS Initial Calibration Verification Standard 3 - 22 components		Reference: 2EE1.10.5N.L5	
		<b>Volume:</b> 500 ml	
		<b>Matrix:</b> in 5 %HNO <sub>3</sub> / tr. Tart. Ac.	
Element	Concentration	Element	Concentration
Ca	100 mg/l	Cd	10 mg/l
Fe	100 mg/l	Cr	10 mg/l
Mg	100 mg/l	Co	10 mg/l
K	100 mg/l	Cu	10 mg/l
Na	100 mg/l	Pb	10 mg/l
Se	50 mg/l	Mn	10 mg/l
Al	10 mg/l	Ni	10 mg/l
Sb	10 mg/l	Ag	10 mg/l
As	10 mg/l	Tl	10 mg/l
Ba	10 mg/l	V	10 mg/l
Be	10 mg/l	Zn	10 mg/l

## Tuning Solution

<b>Tuning Solution 9 elements</b>			
		<b>Reference:</b> MS8AC1.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Pb	10 mg/l
Be	10 mg/l	Mg	10 mg/l
Ce	10 mg/l	Rh	10 mg/l
Co	10 mg/l	U	10 mg/l
In	10 mg/l		

<b>Tuning Solution 5 elements</b>			
		<b>Reference:</b> MS448B.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Be	10 mg/l	Pb	10 mg/l
Co	10 mg/l	Mg	10 mg/l
In	10 mg/l		

<b>Tuning Solution 4 elements</b>			
		<b>Reference:</b> 5EAF.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Co	10 mg/l	Li	10 mg/l
In	10 mg/l	Tl	10 mg/l

<b>ICP-MS Tuning Solution 3 - 10 components</b>			
		<b>Reference:</b> 0E83.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	10 mg/l	In	1 mg/l
Be	1 mg/l	Mg	1 mg/l
Ce	1 mg/l	Pb	1 mg/l
Co	1 mg/l	Th	1 mg/l
Fe	1 mg/l	U	1 mg/l

<b>Tuning Solution 8 elements</b>			
		<b>Reference:</b> MSF5AA.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	10 mg/l	Li	10 mg/l
Be	10 mg/l	Mg	10 mg/l
Cu	10 mg/l	Tl	10 mg/l
In	10 mg/l	U	10 mg/l

<b>Tuning Solution 4 elements</b>			
		<b>Reference:</b> MS4C39.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ce	10 mg/l	Tl	10 mg/l
Li	10 mg/l	Y	10 mg/l

<b>ICP-MS Tuning Solution - Tune B ICAP - 7 components</b>			
		<b>Reference:</b> 161D.1.2N05C.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	1 mg/l	In	1 mg/l
Bi	1 mg/l	Li	1 mg/l
Ce	1 mg/l	U	1 mg/l
Co	1 mg/l		

<b>ICP-MS Tuning Solution 4 - 4 components</b>			
		<b>Reference:</b> 5EAF.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Co	10 mg/l	Li	10 mg/l
In	10 mg/l	Tl	10 mg/l



## Plasma Setup Solution

Plasma Setup Solution 13 elements		<b>Reference:</b> MS9562.D01.05N.L5	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 0,5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	0.01 mg/l	In	0.01 mg/l
B	0.01 mg/l	Pb	0.01 mg/l
Ba	0.01 mg/l	Mg	0.01 mg/l
Cd	0.01 mg/l	Mn	0.01 mg/l
Ce	0.01 mg/l	Rh	0.01 mg/l
Cr	0.01 mg/l	Th	0.01 mg/l
Cu	0.01 mg/l		

# EPA and ISO Methods

## EPA Method 200.7

EPA 200.7 - Mixed Calibration Standard 1		Reference: 87EA.5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	100 mg/l	Cd	20 mg/l
Ca	100 mg/l	Cu	20 mg/l
Sb	50 mg/l	Mn	20 mg/l
Se	50 mg/l	Ba	10 mg/l
B	20 mg/l	Ag	5 mg/l

EPA 200.7 - Mixed Calibration Standard 2 - 6 components		Reference: B306.K2.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	200 mg/l	Ti	100 mg/l
Mo	100 mg/l	Li	50 mg/l
Na	100 mg/l	Sr	10 mg/l

EPA 200.7 - Mixed Calibration Standard 2 - 4 components		Reference: AE93.20.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
P	100 mg/l	Co	20 mg/l
Ce	20 mg/l	V	20 mg/l

EPA 200.7 - Mixed Calibration Standard 4 - 5 components		Reference: 58DA.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	100 mg/l	Zn	50 mg/l
Si	100 mg/l	Sn	40 mg/l
Cr	50 mg/l		

EPA 200.7 - Mixed Calibration Standard 5 - 6 components		Reference: FE99.10.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Fe	100 mg/l	Tl	50 mg/l
Pb	100 mg/l	Ni	20 mg/l
Mg	100 mg/l	Be	10 mg/l

EPA 200.7 - Mixed Calibration Standard 6R - 5 components		Reference: 78DA.50.5NF.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
P	200 mg/l	Si	100 mg/l
Sn	200 mg/l	B	50 mg/l
Ti	100 mg/l		

EPA 200.7 - Instrument Performance Check Standard 1		Reference: 581A.2D5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	100 mg/l	Fe	20 mg/l
P	100 mg/l	Pb	20 mg/l
Al	20 mg/l	Li	20 mg/l
As	20 mg/l	Mg	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	Se	20 mg/l
Cd	20 mg/l	Na	20 mg/l
Ca	20 mg/l	Sr	20 mg/l
Ce	20 mg/l	Tl	20 mg/l
Cr	20 mg/l	V	20 mg/l
Co	20 mg/l	Zn	20 mg/l
Cu	20 mg/l	Ag	2.5 mg/l

EPA 200.7 - Instrument Performance Check Standard 2 - 5 components		Reference: A827.20.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Si	100 mg/l	Sn	20 mg/l
Sb	20 mg/l	Ti	20 mg/l
Mo	20 mg/l		





EPA 200.7 - Laboratory Fortifying Stock Solution - 25 components		Reference: 424E.2D5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
P	50 mg/l	Se	25 mg/l
Al	25 mg/l	Si	25 mg/l
Sb	25 mg/l	Sr	25 mg/l
As	25 mg/l	Tl	25 mg/l
Ba	25 mg/l	Zn	25 mg/l
B	25 mg/l	Cd	10 mg/l
Cr	25 mg/l	Co	10 mg/l
Cu	25 mg/l	Mo	10 mg/l
Fe	25 mg/l	Sn	10 mg/l
Pb	25 mg/l	V	10 mg/l
Li	25 mg/l	Be	5 mg/l
Mn	25 mg/l	Ag	2.5 mg/l
Ni	25 mg/l		

EPA 200.7 - Instrument Fortifying Standard for Water - 22 components		Reference: A816.7D5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	500 mg/l	Fe	20 mg/l
Al	20 mg/l	Pb	20 mg/l
As	20 mg/l	Li	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	P	20 mg/l
Cd	20 mg/l	Se	20 mg/l
Ce	20 mg/l	Tl	20 mg/l
Cr	20 mg/l	V	20 mg/l
Co	20 mg/l	Zn	20 mg/l
Cu	20 mg/l	Ag	7.5 mg/l

EPA 200.7 - Laboratory Performance Check Standard - 29 components		Reference: 0F81.5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
P	100 mg/l	Pb	20 mg/l
K	100 mg/l	Li	20 mg/l
Si	100 mg/l	Mg	20 mg/l
Al	20 mg/l	Mn	20 mg/l
Sb	20 mg/l	Mo	20 mg/l
As	20 mg/l	Ni	20 mg/l
Ba	20 mg/l	Se	20 mg/l
Be	20 mg/l	Na	20 mg/l
B	20 mg/l	Sr	20 mg/l
Cd	20 mg/l	Tl	20 mg/l
Ca	20 mg/l	Sn	20 mg/l
Cr	20 mg/l	V	20 mg/l
Co	20 mg/l	Zn	20 mg/l
Cu	20 mg/l	Ag	5 mg/l
Fe	20 mg/l		

EPA 200.7 - Instrument Fortifying Standard - 26 components		Reference: C2E3.7D5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	500 mg/l	Pb	20 mg/l
Al	20 mg/l	Li	20 mg/l
As	20 mg/l	Mg	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	P	20 mg/l
Cd	20 mg/l	Se	20 mg/l
Ca	20 mg/l	Na	20 mg/l
Ce	20 mg/l	Sr	20 mg/l
Cr	20 mg/l	Tl	20 mg/l
Co	20 mg/l	V	20 mg/l
Cu	20 mg/l	Zn	20 mg/l
Fe	20 mg/l	Ag	7.5 mg/l

Instrument Fortifying Standard for Solids - 24 components		Reference: E5D1.7D5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	500 mg/l	Li	20 mg/l
As	20 mg/l	Mg	20 mg/l
Ba	20 mg/l	Mn	20 mg/l
Be	20 mg/l	Ni	20 mg/l
B	20 mg/l	P	20 mg/l
Cd	20 mg/l	Se	20 mg/l
Ca	20 mg/l	Na	20 mg/l
Ce	20 mg/l	Sr	20 mg/l
Cr	20 mg/l	Tl	20 mg/l
Co	20 mg/l	V	20 mg/l
Cu	20 mg/l	Zn	20 mg/l
Pb	20 mg/l	Ag	7.5 mg/l

EPA 200.7 - Instrument Fortifying Standard - 5 components		Reference: 6C22.20.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sb	20 mg/l	Sn	20 mg/l
Mo	20 mg/l	Ti	20 mg/l
Si	20 mg/l		

EPA 200.7 - SIC Solution 1		Reference: B072.50.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub> / tr. HF	
Element	Concentration		
Mo	50 mg/l		

EPA 200.7 - SIC Solution 2 - 5 components		Reference: B8ED.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Cu	40 mg/l	Co	10 mg/l
Cr	20 mg/l	V	10 mg/l
Mn	20 mg/l		

EPA 200.7 - SIC Solution 3 - 3 components		Reference: B229.30.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Fe	150 mg/l	Ni	20 mg/l
Al	30 mg/l		

200.7 Calibration - CAL 2 - 6 components		Reference: B306.2K.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
K	2000 mg/l	Ti	1000 mg/l
Mo	1000 mg/l	Li	500 mg/l
Na	1000 mg/l	Sr	100 mg/l

200.7 Calibration - CAL 1 - 10 components		Reference: AE81.50.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	1000 mg/l	Cu	200 mg/l
Ca	1000 mg/l	Mn	200 mg/l
Sb	500 mg/l	Ba	100 mg/l
Se	500 mg/l	B	100 mg/l
Cd	200 mg/l	Ag	50 mg/l



\* Custom Standards for ICP & ICP-MS are available upon request.



<b>200.7 Calibration - CAL 3 - 4 components</b>		<b>Reference:</b> AE93.K2.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
P	1000 mg/l	Co	200 mg/l
Ce	200 mg/l	V	200 mg/l

<b>200.7 Calibration - CAL 4A- 4 components</b>		<b>Reference:</b> B37B.1K.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	1000 mg/l	Zn	500 mg/l
Cr	500 mg/l	Hg	200 mg/l

<b>200.7 Calibration - CAL 4B- 2 components</b>		<b>Reference:</b> E2EC.1K.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 %HNO <sub>3</sub> /tr.HF	
Element	Concentration	Element	Concentration
SiO <sub>2</sub>	1000 mg/l	Sn	400 mg/l

<b>200.7 Quality Control Standard (QCS) - 3 components</b>		<b>Reference:</b> 92F5.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ce	100 mg/l	P	100 mg/l
Hg	100 mg/l		

### EPA Method 200.8

<b>200.8 Calibration CAL 3 - Hg</b>		<b>Reference:</b> DOBC.1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub> (v/v)	
Element	Concentration		
Hg	1 mg/l		

### EPA Method 6010

<b>EPA 6010 - Laboratory Performance Check Standard - 30 components</b>		<b>Reference:</b> 7CF2.5.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
P	100 mg/l	Pb	20 mg/l
K	100 mg/l	Li	20 mg/l
Si	100 mg/l	Mg	20 mg/l
Al	20 mg/l	Mn	20 mg/l
Sb	20 mg/l	Mo	20 mg/l
As	20 mg/l	Ni	20 mg/l
Ba	20 mg/l	Se	20 mg/l
Be	20 mg/l	Na	20 mg/l
B	20 mg/l	Sr	20 mg/l
Cd	20 mg/l	Tl	20 mg/l
Ca	20 mg/l	Sn	20 mg/l
Cr	20 mg/l	Ti	20 mg/l
Co	20 mg/l	V	20 mg/l
Cu	20 mg/l	Zn	20 mg/l
Fe	20 mg/l	Ag	5 mg/l

ISO 11885 Water Quality

Multi element Reference Solution 1 - 18 components		Reference: 9B99.10.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	10 mg/l	Mo	10 mg/l
Be	10 mg/l	Ni	10 mg/l
Bi	10 mg/l	Pb	10 mg/l
Cd	10 mg/l	Si	10 mg/l
Co	10 mg/l	Sr	10 mg/l
Cu	10 mg/l	V	10 mg/l
Fe	10 mg/l	W	10 mg/l
Li	10 mg/l	Zn	10 mg/l
Mn	10 mg/l	Zr	10 mg/l

Reagent Blank Solution: Nitric Acid 1%	Reference: 842A.1K.N.L5
	<b>Volume:</b> 500 ml

Multi element Reference Solution 2 - 5 components		Reference: 2014.10.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	10 mg/l	Sn	10 mg/l
Sb	10 mg/l	Ti	10 mg/l
Se	10 mg/l		

Multi element Reference Solution 6 - 6 components		Reference: B488.10.1N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 1 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ca	10 mg/l	K	10 mg/l
Mg	10 mg/l	S	10 mg/l
Na	10 mg/l	P	10 mg/l

USP 232

Multi-element solution according to USP 232 dietary supplements - 4 components		Reference: FDA4.15.7N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 7 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Cd	5 mg/l	As	15 mg/l
Pb	10 mg/l	Hg	15 mg/l

USP 232 Parenteral Elemental Impurities - 8 components		Reference: 121E.1D5.7N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 7 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Cd	2.5 mg/l	Mo	10 mg/l
Pb	5 mg/l	Ni	50 mg/l
As	1.5 mg/l	V	10 mg/l
Hg	1.5 mg/l	Cu	100 mg/l

ICP Multi-element standard according to USP 232 parenteral dose - 6 components		Reference: 7F97.10.15C.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 15 % HCl	
Element	Concentration	Element	Concentration
Ir	10 mg/l	Rh	10 mg/l
Pt	10 mg/l	Pd	10 mg/l
Os	10 mg/l	Ru	10 mg/l

USP 232 Parenteral Elemental Impurities - 8 components		Reference: E13C.1D5.7N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 7 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Cd	25 mg/l	Mo	100 mg/l
Pb	5 mg/l	Ni	500 mg/l
As	1.5 mg/l	V	100 mg/l
Hg	15 mg/l	Cu	1000 mg/l

USP 232 Parenteral Elemental Impurities - 6 components		Reference: 7F97.K1.15C.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 15 % HCl	
Element	Concentration	Element	Concentration
Ir	100 mg/l	Rh	100 mg/l
Pt	100 mg/l	Pd	100 mg/l
Os	100 mg/l	Ru	100 mg/l



\* Custom Standards for ICP & ICP-MS are available upon request.

# Standards for Water Quality

## Reference Material for Measurement of Elements in Water

CRM water 1 (Ca 1000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.D005.005N.L1 Volume: 100 ml Matrix: in 0,05 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
S	2000 µg/l	Al	5 µg/l
Ca	1000 µg/l	Ba	5 µg/l
Si	1000 µg/l	Cu	5 µg/l
P	500 µg/l	Pb	5 µg/l
K	500 µg/l	Mo	5 µg/l
Na	500 µg/l	Ni	5 µg/l
Mg	200 µg/l	Ag	5 µg/l
B	50 µg/l	Sr	5 µg/l
Li	50 µg/l	V	5 µg/l
Sb	10 µg/l	Be	2 µg/l
As	10 µg/l	Co	2 µg/l
Bi	10 µg/l	Cr	2 µg/l
Fe	10 µg/l	Mn	2 µg/l
Se	10 µg/l	Ti	2 µg/l
Tl	10 µg/l	Cd	0.5 µg/l
Zn	10 µg/l		

CRM water 2 (Ca 10 000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.D05.05N.L1 Volume: 100 ml Matrix: in 0,05 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
S	20 000 µg/l	Al	50 µg/l
Ca	10 000 µg/l	Ba	50 µg/l
Si	10 000 µg/l	Cu	50 µg/l
P	5000 µg/l	Pb	50 µg/l
K	5000 µg/l	Mo	50 µg/l
Na	5000 µg/l	Ni	50 µg/l
Mg	2000 µg/l	Ag	50 µg/l
B	500 µg/l	Sr	50 µg/l
Li	500 µg/l	V	50 µg/l
Sb	100 µg/l	Be	20 µg/l
As	100 µg/l	Co	20 µg/l
Bi	100 µg/l	Cr	20 µg/l
Fe	100 µg/l	Mn	20 µg/l
Se	100 µg/l	Ti	20 µg/l
Tl	100 µg/l	Cd	5 µg/l
Zn	100 µg/l		

CRM water 3 (Ca 100 000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.D5.5N.L1 Volume: 100 ml Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
S	200 000 µg/l	Al	500 µg/l
Ca	100 000 µg/l	Ba	500 µg/l
Si	100 000 µg/l	Cu	500 µg/l
P	50 000 µg/l	Pb	500 µg/l
K	50 000 µg/l	Mo	500 µg/l
Na	50 000 µg/l	Ni	500 µg/l
Mg	20 000 µg/l	Ag	500 µg/l
B	5000 µg/l	Sr	500 µg/l
Li	5000 µg/l	V	500 µg/l
Sb	1000 µg/l	Be	200 µg/l
As	1000 µg/l	Cr	200 µg/l
Bi	1000 µg/l	Co	200 µg/l
Fe	1000 µg/l	Mn	200 µg/l
Se	1000 µg/l	Ti	200 µg/l
Tl	1000 µg/l	Cd	50 µg/l
Zn	1000 µg/l		

CRM water 4 (Ca 1 000 000 µg/l) - 1 bottle of 100 ml		Reference: WCEBF.5.5N.L1 Volume: 100 ml Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
S	2 000 000 µg/l	Al	5000 µg/l
Ca	1 000 000 µg/l	Ba	5000 µg/l
Si	1 000 000 µg/l	Cu	5000 µg/l
P	500 000 µg/l	Pb	5000 µg/l
K	500 000 µg/l	Mo	5000 µg/l
Na	500 000 µg/l	Ni	5000 µg/l
Mg	200 000 µg/l	Ag	5000 µg/l
B	50 000 µg/l	Sr	5000 µg/l
Li	50 000 µg/l	V	5000 µg/l
Sb	10 000 µg/l	Be	2000 µg/l
As	10 000 µg/l	Cr	2000 µg/l
Bi	10 000 µg/l	Co	2000 µg/l
Fe	10 000 µg/l	Mn	2000 µg/l
Se	10 000 µg/l	Ti	2000 µg/l
Tl	10 000 µg/l	Cd	500 µg/l
Zn	10 000 µg/l		

CRM water 5 (Ca 2 000 000 µg/l) - 4 bottle of 100 ml		Reference: WCEBFD5.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
S	4000 000 µg/l	Al	10 000 µg/l
Ca	2000 000 µg/l	Ba	10 000 µg/l
Si	2000 000 µg/l	Cu	10 000 µg/l
P	1000 000 µg/l	Pb	10 000 µg/l
K	1000 000 µg/l	Mo	10 000 µg/l
Na	1000 000 µg/l	Ni	10 000 µg/l
Mg	400 000 µg/l	Ag	10 000 µg/l
B	100 000 µg/l	Sr	10 000 µg/l
Li	100 000 µg/l	V	10 000 µg/l
Sb	20 000 µg/l	Be	4000 µg/l
As	20 000 µg/l	Cr	4000 µg/l
Bi	20 000 µg/l	Co	4000 µg/l
Fe	20 000 µg/l	Mn	4000 µg/l
Se	20 000 µg/l	Ti	4000 µg/l
Tl	20 000 µg/l	Cd	1000 µg/l
Zn	20 000 µg/l		

ICP Calibration Standard - Sewage Sludge		Reference: D45E.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Zn	2500 mg/l	Cu	800 mg/l
Cr	900 mg/l	Ni	200 mg/l
Pb	900 mg/l	Cd	10 mg/l

CLP Soil Spiking Solution - 16 components		Reference: 10D1.10.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	400 mg/l	Ni	100 mg/l
Ba	400 mg/l	V	100 mg/l
Se	400 mg/l	Zn	100 mg/l
Tl	400 mg/l	Cu	50 mg/l
Sb	100 mg/l	Cr	40 mg/l
Co	100 mg/l	Be	10 mg/l
Pb	100 mg/l	Cd	10 mg/l
Mn	100 mg/l	Ag	10 mg/l

TCLP Standard for ICP - 4 components		Reference: 47BC.25.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ba	500 mg/l	Ag	25 mg/l
Cr	25 mg/l	Cd	5 mg/l

TCLP Standard for ICP - 3 components		Reference: 8050.25.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	25 mg/l	Se	5 mg/l
Pb	25 mg/l		

TCLP Standard 2 - Hg		Reference: D0BC.20.5N.L1	
		Volume: 100 ml	
		Matrix: in 5 % HNO <sub>3</sub>	
Element	Concentration		
Hg	20 mg/l		

*Standards for Analytes covered in the Safe Drinking Water Act (SDWA)*

Primary Metals for Analysis by ICP - 9 components		Reference: 6D95.K1.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	100 mg/l	Cd	10 mg/l
Ca	100 mg/l	Cr	10 mg/l
Na	100 mg/l	Cu	10 mg/l
Ba	10 mg/l	Ni	10 mg/l
Be	10 mg/l		

Primary Metals for Analysis by ICP-MS - 11 components		Reference: 686F.10.2N.L1	
		Volume: 100 ml	
		Matrix: in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
As	10 mg/l	Ni	10 mg/l
Ba	10 mg/l	Pb	10 mg/l
Be	10 mg/l	Sb	10 mg/l
Cd	10 mg/l	Se	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l		



\* Custom Standards for ICP & ICP-MS are available upon request.

Primary Metals for Analysis by GFAA - 9 components		Reference: 2495.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sb	10 mg/l	Pb	10 mg/l
As	10 mg/l	Ni	10 mg/l
Cd	10 mg/l	Se	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l		

Primary & Secondary Metals for Analysis by GFAA/ICP/ICP-MS - 19 components		Reference: DE11.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Cr	10 mg/l
As	100 mg/l	Cu	10 mg/l
Ca	100 mg/l	Pb	10 mg/l
Fe	100 mg/l	Mn	10 mg/l
Si	100 mg/l	Ni	10 mg/l
Na	100 mg/l	Se	10 mg/l
Al	10 mg/l	Ag	10 mg/l
Ba	10 mg/l	Tl	10 mg/l
Be	10 mg/l	Zn	10 mg/l
Cd	10 mg/l		

Primary Metals for Analysis by GFAA/ICP/ICP-MS - 14 components		Reference: C87D.K1.2NFL1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Cd	10 mg/l
As	100 mg/l	Cr	10 mg/l
Ca	100 mg/l	Cu	10 mg/l
Si	100 mg/l	Pb	10 mg/l
Na	100 mg/l	Ni	10 mg/l
Ba	10 mg/l	Se	10 mg/l
Be	10 mg/l	Tl	10 mg/l

Secondary Metals for Analysis by GFAA/ICP/ICP-MS - 5 components		Reference: F235.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Fe	100 mg/l	Mn	10 mg/l
Ag	10 mg/l	Zn	10 mg/l
Al	10 mg/l		

# ICP Standards

## Quality Control Standards for ICP

Quality Control Standard - 25 components		Reference: 64F7.10.2N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 2 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Ag	10 mg/l	Mn	10 mg/l
Al	10 mg/l	Mo	10 mg/l
As	10 mg/l	Na	10 mg/l
Ba	10 mg/l	Ni	10 mg/l
Be	10 mg/l	Pb	10 mg/l
Ca	10 mg/l	Sb	10 mg/l
Cd	10 mg/l	Se	10 mg/l
Co	10 mg/l	Th	10 mg/l
Cr	10 mg/l	Tl	10 mg/l
Cu	10 mg/l	U	10 mg/l
Fe	10 mg/l	V	10 mg/l
K	10 mg/l	Zn	10 mg/l
Mg	10 mg/l		

## ICP Calibration Standards

Solids 1A CCV Solution for ICP-OES - 14 components		Reference: 06DF.K1.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
B	1000 mg/l	Cr	100 mg/l
Ba	1000 mg/l	Cu	100 mg/l
P	1000 mg/l	Ni	100 mg/l
Mn	500 mg/l	Pb	100 mg/l
Zn	500 mg/l	V	100 mg/l
As	100 mg/l	Be	5 mg/l
Co	100 mg/l	Cd	5 mg/l

Solids 1B CCV Solution for ICP-OES - 6 components		Reference: FC4C.5K.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Al	5000 mg/l	Mg	5000 mg/l
Ca	5000 mg/l	Na	5000 mg/l
Fe	5000 mg/l	K	2000 mg/l

Solids Mix 3A solution for ICP-OES - 11 components		Reference: F679.1K.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Mn	2500 mg/l	Ni	1000 mg/l
Zn	2500 mg/l	Pb	1000 mg/l
As	1000 mg/l	V	1000 mg/l
Co	1000 mg/l	Be	100 mg/l
Cr	1000 mg/l	Cd	100 mg/l
Cu	1000 mg/l		

Solids Mix 4 solution for ICP-OES - 6 components		Reference: 42F9.50.5N.L1	
		<b>Volume:</b> 100 ml	
		<b>Matrix:</b> in 5 % HNO <sub>3</sub>	
Element	Concentration	Element	Concentration
Sb	100 mg/l	Te	100 mg/l
Se	100 mg/l	Tl	100 mg/l
Sn	100 mg/l	Mo	50 mg/l



\* Custom Standards for ICP & ICP-MS are available upon request.