

ICP-MS Multielement Standards

ICP-MS Calibration Standards

The following solutions include elements chosen to calibrate the ICP-MS over the entire mass spectrum. These multielement standards are designed to assist the analyst in the verification of the mass range.

Catalog No.	Element	Conc.	Element	Conc.	Element	Conc.	Matrix	Volume		
ICP-MSCS	Li	10 µg/mL	Co	10 µg/mL	Sb	10 µg/mL	2% HNO ₃ + Tr HF	100 mL		
	Be	10	Ni	10	Ba	10		250 mL		
	B	10	Cu	10	La	10		500 mL		
	Na	10	Zn	10	Eu	10				
	Mg	10	As	10	Ho	10				
	Al	10	Sc	10	Yb	10				
	Ca	10	Sr	10	Tl	10				
	Se	10	Mo	10	Pb	10				
	V	10	Ag	10	Th	10				
	Cr	10	Cd	10	U	10				
	Mn	10								
	ICP-MSCS-M	Li	10 g/mL	Co	10 µg/mL	Ba		10 µg/mL	2% HNO ₃ + Tr HF	100 mL
		Be	10	Ni	10	La		10		250 mL
B		10	Cu	10	Eu	10	500 mL			
Na		10	Zn	10	Ho	10				
Mg		10	As	10	Yb	10				
Al		10	Se	10	Tl	10				
Ca		10	Sr	10	Pb	10				
V		10	Mo	10	Bi	10				
Cr		10	Ag	10	Th	10				
Mn		10	Cd	10	U	10				
Fe		10	Sb	10						

Interference Check Solutions

These solutions contain known concentrations of elements that will demonstrate the magnitude of interference and provide adequate tests for many corrections.

Catalog No.	Element	Conc.	Element	Conc.	Element	Conc.	Matrix	Volume
ICP-MS-ICS	Solution A		Solution AB				2% HNO ₃ + Tr HF	100 mL
	Al	500 mg/L	Al	500 mg/L	As	0.10 mg/L		250 mL
	Ca	500	Ca	500	Cd	0.05		500 mL
	Fe	500	Fe	500	Cr	0.10		
	Mg	500	Mg	500	Co	0.20		
	Na	500	Na	500	Cu	0.10		
	P	500	P	500	Ni	0.20		
	K	500	K	500	Mn	0.10		
	S	500	S	500	Se	0.10		
	C	1000	C	1000	Ag	0.10		
	Cl	3600	Cl	3600	V	0.20		
	Mo	10	Mo	10	Zn	0.10		
	Ti	10	Ti	10				

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ICP-MS Verification Standards

The following series of ICP-MS standards are used as concentration verification checks.

Catalog No.	Element	Conc.	Element	Conc.	Element	Conc.	Matrix	Volume
ICP-MS-B	Ce	10 µg/mL	La	10 µg/mL	Tb	10 µg/mL	2% HNO ₃	100 mL
	Dy	10	Lu	10	Th	10		250 mL
	Er	10	Nd	10	Tm	10		500 mL
	Eu	10	Pr	10	Yb	10		
	Gd	10	Sm	10	Y	10		
	Ho	10	Sc	10				
ICP-MS-C	Sb	10 µg/mL	Pd	10 µg/mL	Ru	10 µg/mL	10% HCl	100 mL
	Au	10	Pt	10	Sn	10		250 mL
	Hf	10	Rh	10	Te	10		500 mL
	Ir	10						
ICP-MS-D	B	10 µg/mL	P	10 µg/mL	Ta	10 µg/mL	2% HNO ₃ + Tr HF	100 mL
	Ge	10	Re	10	Ti	10		250 mL
	Mo	10	S	10	W	10		500 mL
	Nb	10	Si	10	Zr	10		

ICP-MS Method 6020

When the following solution is diluted 100-fold, the Contract Required Detection Limits (CRDL) of the elements approved for ICP-MS Method 6020 CLP-M are met.

Catalog No.	Element	Conc.	Element	Conc.	Element	Conc.	Matrix	Volume
ICP-MS-6020	Al	200 µg/L	Co	50 µg/L	K	5000 µg/L	4% HNO ₃ + Tr HF	100 mL
	Sb	60	Cu	25	Se	5		250 mL
	As	10	Fe	100	Ag	10		500 mL
	Ba	200	Pb	5	Na	5000		
	Be	5	Mg	5000	Tl	10		
	Cd	5	Mn	15	V	50		
	Ca	5000	Ni	40	Zn	20		
	Cr	10						

ICP-MS Multielement Standards

Tuning Solutions

The following solutions include elements chosen to calibrate the ICP-MS over the entire mass spectrum. These multielement standards are designed to assist the analyst in the verification of the mass range.

Catalog No.	Element	Conc.	Element	Conc.	Element	Conc.	Matrix	Volume
ICP-MS-TS-1	Li	10 µg/mL	In	10 µg/mL			2% HNO ₃	100 mL
	Co	10	Tl	10				250 mL
								500 mL
ICP-MS-TS-2	Li	10 µg/mL	Ce	10 µg/mL			2% HNO ₃	100 mL
	Y	10	Tl	10				250 mL
								500 mL
ICP-MS-TS-3	Be	10 µg/mL	In	10 µg/mL			2% HNO ₃	100 mL
	Mg	10	Pb	10				250 mL
	Co	10						500 mL
ICP-MS-TS-4	Be	10 µg/mL	Co	10 µg/mL	Ba	10 µg/mL	2% HNO ₃	100 mL
	Mg	10	Ni	10	Ce	10		250 mL
	Al	10	Y	10	Pb	10		500 mL
	V	10	In	10	Bi	10		
ICP-MS-TS-5	Bi	10 µg/mL	⁶ Li	10 µg/mL	U	10 µg/mL	2% HNO ₃	100 mL
	Ho	10	Sc	10	Y	10		250 mL
	In	10	Tb	10				500 mL

Simulated Rainwater

The following Simulated Rainwater standards are available in 250 mL, packaged as 5 x 50 mL bottles. The concentrations shown below are the targeted values for each level.

Catalog No.	SR-1	SR-2
pH, 25°C	4.3	3.6
Specific Conductance (µs/cm, 25°C)	26	130
Components	mg/L	mg/L
Fluoride	0.05	0.10
Chloride	0.25	1
Nitrate	0.50	7
Sulfate	2.5	11
Sodium	0.20	0.40
Potassium	0.05	0.10
Ammonium	0.10	1
Calcium	0.01	0.05
Magnesium	0.02	0.05



ICP-MS Multielement Standards

68-Element Standard

This was developed for our customers as a standard to use when screening for a large number of elements. The chloride in Solution C has been reduced to minimize ICP-MS interferent effects. All three solutions may be purchased as a set, or individually.

Catalog No.	ICP-MS-68A-A Solution A 10 mg/L	ICP-MS-68A-B Solution B 10 mg/L	ICP-MS-68A-C Solution C 10 mg/L	Volume	
ICP-MS-68A (Includes all three solutions)	Al	Lu	Ag	Au	100 mL
	As	Mg	Hf	Ir	250 mL
	Ba	Mn	Ge	Os	500 mL
	Be	Na	Mo	Pd	
	Bi	Nd	Nb	Pt	
	B	Ni	Sb	Rh	
	Ca	P	Si	Ru	
	Cd	Pb	Sn		
	Ce	Pr	Ta		
	Co	Re	Te		
	Cr	Rb	Ti		
	Cs	Sc	W		
	Cu	Se	Zr		
	Dy	Sm			
	Er	Sr			
	Eu	Tb			
	Fe	Th			
	Ga	Tl			
	Gd	Tm			
	Ho	U			
In	V				
K	Y				
La	Yb				
Li	Zn				
Matrix	2% HNO ₃	2% HNO ₃ + Tr HF	2% HNO ₃ + Tr HCl		
Catalog No.	ICP-MS-68B-A Solution A 10 mg/L	ICP-MS-68B-B Solution B 10 mg/L	ICP-MS-68B-C Solution C 10 mg/L	Volume	
ICP-MS-68B (Includes all three solutions)	ICP-MS-68B offers identical elements organized similar to ICP-MS-68A but at a concentration of 100 mg/L. Volumes of 100, 250 and 500 mL are stocked.				
Matrix	4% HNO ₃	2% HNO ₃ + Tr HF	4% HNO ₃ + 2% HCl		