



# ICP-MS Standards

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## ICP-MS Standards

All ICP-MS Standards produced by CPAchem use high-purity metals or salts in sub-boiling distilled acids. The Standards are produced and calibrated under CPAchem's quality system that is:

- ISO 9001 certified
- accredited according to ISO/IEC 17025 - Testing
- accredited according to ISO/IEC 17034 - Reference Material Producer

## ICP-MS Single-Element Standards

*100 mg/l*

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M301.2NP.L1	Silver Ag - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ag 99.999%)	100	ml	12	Yes
M302.2NP.L1	Aluminium Al - 100 mg/l in HNO <sub>3</sub> for ICP-MS ( Al(NO <sub>3</sub> ) <sub>3</sub> - 99.999%)	100	ml	12	Yes
M303.2NP.L1	Arsenic As - 100 mg/l in HNO <sub>3</sub> for ICP-MS ( As 99.999%)	100	ml	12	Yes
M304.2CP.L1	Gold Au - 100 mg/l in HCl for ICP-MS (Au 99.999%)	100	ml	12	Yes
M305.W.L1	Boron B - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> B <sub>4</sub> O <sub>7</sub> 99.999%)	100	ml	12	Yes
M306.2NP.L1	Barium Ba - 100 mg/l in HNO <sub>3</sub> for ICP-MS (BaCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M307.2NP.L1	Beryllium Be - 100 mg/l in 2% HNO <sub>3</sub> for ICP-MS (Be <sub>4</sub> O(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>6</sub> 99.999%)	100	ml	12	Yes
M308.2NP.L1	Bismuth Bi - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Bi 99.999%)	100	ml	12	Yes
M309.2NP.L1	Calcium Ca - 100 mg/l in HNO <sub>3</sub> for ICP-MS (CaCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M310.2NP.L1	Cadmium Cd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Cd 99.999%)	100	ml	12	Yes
M311.2NP.L1	Cerium Ce - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ce(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M312.2NP.L1	Cobalt Co - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Co(NO <sub>3</sub> ) <sub>2</sub> 99.999%)	100	ml	12	Yes
M313.2NP.L1	Chromium Cr - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Cr(NO <sub>3</sub> ) <sub>3</sub> 99.999%)	100	ml	12	Yes
M314.2NP.L1	Cesium Cs - 100 mg/l in HNO <sub>3</sub> for ICP-MS (CsNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M315.2NP.L1	Copper Cu - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Cu 99.999%)	100	ml	12	Yes
M316.2NP.L1	Dysprosium Dy - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Dy <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M317.2NP.L1	Erbium Er - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Er <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M318.2NP.L1	Europium Eu - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Eu <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M319.2NP.L1	Iron Fe - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Fe(NO <sub>3</sub> ) <sub>3</sub> 99.9995%)	100	ml	12	Yes
M320.2NP.L1	Gallium Ga - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ga 99.999+%)	100	ml	12	Yes
M321.2NP.L1	Gadolinium Gd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Gd <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M322.2N02FP.L1	Germanium Ge - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Ge 99.999%)	100	ml	12	Yes
M323.2N05FP.L1	Hafnium Hf - 100 mg/l in HNO <sub>3</sub> /trHF for ICP-MS (HfO <sub>2</sub> 99.995%)	100	ml	12	Yes
M324.5NP.L1	Mercury Hg - 100 mg/l in 5% HNO <sub>3</sub> for ICP-MS (HgO 99.999+%)	100	ml	12	Yes
M325.2NP.L1	Holmium Ho - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ho <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M326.2NP.L1	Indium In - 100 mg/l in HNO <sub>3</sub> for ICP-MS (In 99.999%)	100	ml	12	Yes
M327.2CP.L1	Iridium Ir - 100 mg/l in HCl for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> IrCl <sub>6</sub> 99.99%)	100	ml	12	Yes
M328.2NP.L1	Potassium K - 100 mg/l in HNO <sub>3</sub> for ICP-MS (KNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M329.2NP.L1	Lanthanum La - 100 mg/l in HNO <sub>3</sub> for ICP-MS (La <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M330.2NP.L1	Lithium Li - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Li <sub>2</sub> CO <sub>3</sub> 99.999%)	100	ml	12	Yes
M331.2NP.L1	Lutetium Lu - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Lu <sub>2</sub> O <sub>3</sub> 99.99%)	100	ml	12	Yes
M332.2NP.L1	Magnesium Mg - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Mg(NO <sub>3</sub> ) <sub>2</sub> , 99.9995%)	100	ml	12	Yes
M333.2NP.L1	Manganese Mn - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Mn(NO <sub>3</sub> ) <sub>2</sub> , 99.999%)	100	ml	12	Yes
M334.W.L1	Molybdenum Mo - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> MoO <sub>4</sub> , 99.999%)	100	ml	12	Yes

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M335.2NP.L1	Sodium Na - 100 mg/l in HNO <sub>3</sub> for ICP-MS (NaNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M336.2N05FP.L1	Niobium Nb - 100 mg/l in HNO <sub>3</sub> / tr.HF for ICP-MS (Nb 99.9+%)	100	ml	12	Yes
M337.2NP.L1	Neodimium Nd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Nd <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M338.2NP.L1	Nickel Ni - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Ni, 99.9998%)	100	ml	12	Yes
M340.W.L1	Phosphorus P - 100 mg/l in H <sub>2</sub> O for ICP-MS (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> 99.999%)	100	ml	12	Yes
M341.2NP.L1	Lead Pb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Pb(NO <sub>3</sub> ) <sub>2</sub> 99.9995%)	100	ml	12	Yes
M342.2NP.L1	Palladium Pd - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Pd 99.999%)	100	ml	12	Yes
M343.2NP.L1	Praseodymium Pr - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Pr <sub>6</sub> O <sub>11</sub> 99.999%)	100	ml	12	Yes
M344.2CP.L1	Platinum Pt - 100 mg/l in HCl for ICP-MS (Pt 99.999%)	100	ml	12	Yes
M345.2NP.L1	Rubidium Rb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (RbNO <sub>3</sub> 99.99%)	100	ml	12	Yes
M346.2NP.L1	Rhenium Re - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Re 99.995+%)	100	ml	12	Yes
M347.2CP.L1	Rhodium Rh - 100 mg/l in HCl for ICP-MS ((RhCl <sub>3</sub> , 99.99%)	100	ml	12	Yes
M348.2CP.L1	Ruthenium Ru - 100 mg/l in HCl for ICP-MS (RuCl <sub>3</sub> 99.99%)	100	ml	12	Yes
M349.W.L1	Sulphur S - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> 99.999%)	100	ml	12	Yes
M350.2N05FP.L1	Antimony Sb - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Sb 99.999%)	100	ml	12	Yes
M351.2NP.L1	Scandium Sc - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Sc <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M352.2NP.L1	Selenium Se - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Se 99.999%)	100	ml	12	Yes
M353.W.L1	Silicon Si - 100 mg/l in H <sub>2</sub> O for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> SiF <sub>6</sub> 99.999%)	100	ml	12	Yes
M354.2NP.L1	Samarium Sm - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Sm <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M355.1N05FP.L1	Tin Sn - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Sn 99.9999%)	100	ml	12	Yes
M356.2NP.L1	Strontium Sr - 100 mg/l in HNO <sub>3</sub> for ICP-MS (SrCO <sub>3</sub> 99.999%)	100	ml	12	Yes
M357.2N05FP.L1	Tantalum Ta - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (Ta 99.99+%)	100	ml	12	Yes
M358.2NP.L1	Terbium Tb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Tb(NO <sub>3</sub> ) <sub>3</sub> , 99.999%)	100	ml	12	Yes
M359.2NP.L1	Tellurium Te - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Te 99.999%)	100	ml	12	Yes
M361.2N02FP.L1	Titanium Ti - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS ((NH <sub>4</sub> ) <sub>2</sub> TiF <sub>6</sub> , 99.998%)	100	ml	12	Yes
M362.2NP.L1	Thallium Tl - 100 mg/l in HNO <sub>3</sub> for ICP-MS (TlNO <sub>3</sub> 99.999%)	100	ml	12	Yes
M363.2NP.L1	Thulium Tm - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Tm <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M364.2NP.L1	Uranium U - 100 mg/l in HNO <sub>3</sub> for ICP-MS (UO <sub>2</sub> (OOCCH <sub>3</sub> ) <sub>2</sub> , 99.99%)	100	ml	12	Yes
M365.2NP.L1	Vanadium V - 100 mg/l in HNO <sub>3</sub> for ICP-MS (NH <sub>4</sub> VO <sub>3</sub> 99.999%)	100	ml	12	Yes
M366.W.L1	Tungsten W - 100 mg/l in 0.05% NH <sub>3</sub> for ICP-MS (WO <sub>3</sub> 99.999%)	100	ml	12	Yes
M367.2NP.L1	Yttrium Y - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Y <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M368.2NP.L1	Ytterbium Yb - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Yb <sub>2</sub> O <sub>3</sub> 99.999%)	100	ml	12	Yes
M369.2NP.L1	Zinc Zn - 100 mg/l in HNO <sub>3</sub> for ICP-MS (Zn 99.9999%)	100	ml	12	Yes
M370.2N05FP.L1	Zirconium Zr - 100 mg/l in HNO <sub>3</sub> /tr.HF for ICP-MS (ZrO(NO <sub>3</sub> ) <sub>2</sub> 99.99%)	100	ml	12	Yes

## ICP-MS Single-Element Standards

1000 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M256.2NP.L1	Sr 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M201.2NP.L1	Ag 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M202.2NP.L1	Al 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M203.2NP.L1	As 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M204.2CP.L1	Au 1000mg/l in diluted HCl for ICP/MS	100	ml	12	Yes
M205.W.L1	B 1000mg/l in H2O for ICP/MS	100	ml	12	Yes
M206.2NP.L1	Ba 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M207.2NP.L1	Be 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M208.2NP.L1	Bi 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M209.2NP.L1	Ca 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M210.2NP.L1	Cd 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M212.2NP.L1	Co 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M213.2NP.L1	Cr 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M215.2NP.L1	Cu 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M219.2NP.L1	Fe 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M220.2NP.L1	Ga 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M222.2N2FP.L1	Ge 1000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M224.5N.L1	Hg 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M226.2NP.L1	In 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M228.2NP.L1	K 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M229.2NP.L1	La 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M230.2NP.L1	Li 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M231.2NP.L1	Lu 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M232.2NP.L1	Mg 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M233.2NP.L1	Mn 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M235.2NP.L1	Na 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M238.2NP.L1	Ni 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M240.W.L1	P 1000mg/l in Water for ICP/MS	100	ml	12	Yes
M241.2NP.L1	Pb 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M244.2CP.L1	Pt 1000mg/l in diluted HCl for ICP/MS	100	ml	12	Yes
M247.2CP.L1	Rh 1000mg/l in diluted HCl for ICP/MS	100	ml	12	Yes
M249.W.L1	S 1000mg/l in Water for ICP/MS	100	ml	12	Yes
M250.2N05FP.L1	Sb 1000mg/l in diluted HNO3/HF for ICP/MS	100	ml	12	Yes
M251.2NP.L1	Sc 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M252.2NP.L1	Se 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M255.1N05FP.L1	Sn 1000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M258.2NP.L1	Tb 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M261.2N2FP.L1	Ti 1000mg/l in diluted HNO3/ HF for ICP/MS	100	ml	12	Yes
M262.2NP.L1	Tl 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M265.2NP.L1	V 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M267.2NP.L1	Y 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes
M269.2NP.L1	Zn 1000mg/l in diluted HNO3 for ICP/MS	100	ml	12	Yes

## ICP-MS Single-Element Standards

10 000 mg/l

Ref. Number	Description	Volume	Msr. Unit	Shelf-life (months)	ISO 17034 ISO 17025
M108.10NP.L1	Bi 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M109.2NP.L1	Ca 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M110.5NP.L1	Cd 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M112.5NP.L1	Co 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M113.5NP.L1	Cr 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M115.5NP.L1	Cu 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M119.5NP.L1	Fe 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M128.2NP.L1	K 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M130.2NP.L1	Li 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M132.2NP.L1	Mg 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M133.5NP.L1	Mn 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M135.2NP.L1	Na 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes
M140.W.L1	P 10 000mg/l in H <sub>2</sub> O for ICP/MS	100	ml	12	Yes
M149.W.L1	S 10 000mg/l in H <sub>2</sub> O for ICP/MS	100	ml	12	Yes
M150.10N2FP.L1	Sb 10 000mg/l in diluted HNO <sub>3</sub> / HF for ICP/MS	100	ml	12	Yes
M155.2N2FP.L1	Sn 10 000mg/l in diluted HNO <sub>3</sub> / HF for ICP/MS	100	ml	12	Yes
M169.5NP.L1	Zn 10 000mg/l in diluted HNO <sub>3</sub> for ICP/MS	100	ml	12	Yes