

Standards equivalent to Merck

| Calibration Standard (I) - 19 components | | Reference: 115474.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 5 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Tl | 400 mg/l | Co | 20 mg/l |
| Bi | 200 mg/l | Cu | 20 mg/l |
| In | 200 mg/l | Zn | 20 mg/l |
| Pb | 200 mg/l | B | 15 mg/l |
| Ga | 150 mg/l | Fe | 15 mg/l |
| Al | 100 mg/l | Ba | 5 mg/l |
| Ni | 50 mg/l | Mn | 5 mg/l |
| Ag | 50 mg/l | Be | 1 mg/l |
| Cr | 25 mg/l | Sr | 1 mg/l |
| Cd | 20 mg/l | | |

| ICP multi-element standard solution II - 3 components | | Reference: 115708.L1 | |
|---|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 2 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Li | 250 mg/l | Na | 1000 mg/l |
| K | 10000 mg/l | | |

| Calibration Standard Earth Alkali components (III) - 4 components | | Reference: 115626.L1 | |
|---|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 5 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Ba | 1000 mg/l | Mg | 1000 mg/l |
| Ca | 1000 mg/l | Sr | 1000 mg/l |

| Calibration Standard (IV) - 23 components | | Reference: 111355.L1 | |
|---|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 2 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Al | 1000 mg/l | Pb | 1000 mg/l |
| Ba | 1000 mg/l | Li | 1000 mg/l |
| Bi | 1000 mg/l | Mg | 1000 mg/l |
| B | 1000 mg/l | Mn | 1000 mg/l |
| Cd | 1000 mg/l | Ni | 1000 mg/l |
| Ca | 1000 mg/l | K | 1000 mg/l |
| Cr | 1000 mg/l | Ag | 1000 mg/l |
| Co | 1000 mg/l | Na | 1000 mg/l |
| Cu | 1000 mg/l | Sr | 1000 mg/l |
| Ga | 1000 mg/l | Tl | 1000 mg/l |
| In | 1000 mg/l | Zn | 1000 mg/l |
| Fe | 1000 mg/l | | |

| ICP multi-element standard solution VI - 30 components | | Reference: 110580.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 5 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Ca | 1000 mg/l | K | 10 mg/l |
| As | 100 mg/l | Pb | 10 mg/l |
| B | 100 mg/l | Li | 10 mg/l |
| Be | 100 mg/l | Mg | 10 mg/l |
| Fe | 100 mg/l | Mn | 10 mg/l |
| Se | 100 mg/l | Mo | 10 mg/l |
| Zn | 100 mg/l | Ni | 10 mg/l |
| Al | 10 mg/l | Rb | 10 mg/l |
| Ba | 10 mg/l | Na | 10 mg/l |
| Bi | 10 mg/l | Ag | 10 mg/l |
| Cd | 10 mg/l | Sr | 10 mg/l |
| Co | 10 mg/l | Te | 10 mg/l |
| Cr | 10 mg/l | Tl | 10 mg/l |
| Cu | 10 mg/l | U | 10 mg/l |
| Ga | 10 mg/l | V | 10 mg/l |

| ICP multi-element standard IX - 9 components | | Reference: 109494.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 5 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| As | 100 mg/l | Hg | 100 mg/l |
| Be | 100 mg/l | Ni | 100 mg/l |
| Cd | 100 mg/l | Se | 100 mg/l |
| Cr | 100 mg/l | Tl | 100 mg/l |
| Pb | 100 mg/l | | |

| Merck ICP Multi-element standard XI - 7 components | | Reference: 109491.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 5 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Zn | 2 500 mg/l | Ni | 200 mg/l |
| Cr | 900 mg/l | Cd | 10 mg/l |
| Pb | 900 mg/l | Hg | 8 mg/l |
| Cu | 800 mg/l | | |

| Calibration Standard (VIII) - 24 components | | Reference: 109492.L1 | |
|---|---------------|---|---------------|
| | | Volume: 100 ml | |
| | | Matrix: in 2 % HNO ₃ /tr.HCl | |
| Element | Concentration | Element | Concentration |
| Al | 100 mg/l | Pb | 100 mg/l |
| Ba | 100 mg/l | Li | 100 mg/l |
| Be | 100 mg/l | Mg | 100 mg/l |
| Bi | 100 mg/l | Mn | 100 mg/l |
| B | 100 mg/l | Ni | 100 mg/l |
| Cd | 100 mg/l | K | 100 mg/l |
| Ca | 100 mg/l | Se | 100 mg/l |
| Cr | 100 mg/l | Na | 100 mg/l |
| Co | 100 mg/l | Sr | 100 mg/l |
| Cu | 100 mg/l | Te | 100 mg/l |
| Ga | 100 mg/l | Tl | 100 mg/l |
| Fe | 100 mg/l | Zn | 100 mg/l |

| ICP multi-element standard solution X - 23 components | | Reference: 109493.L1 | |
|---|---------------|---|---------------|
| | | Volume: 100 ml | |
| | | Matrix: in 5 % HNO ₃ /tr. HF | |
| Element | Concentration | Element | Concentration |
| Ca | 35 000 mg/l | Zn | 50 mg/l |
| Mg | 15 000 mg/l | Mn | 30 mg/l |
| Na | 8 000 mg/l | Co | 25 mg/l |
| K | 3 000 mg/l | Pb | 25 mg/l |
| B | 100 mg/l | Be | 20 mg/l |
| Fe | 100 mg/l | Cd | 20 mg/l |
| Mo | 100 mg/l | Cr | 20 mg/l |
| Sr | 100 mg/l | Cu | 20 mg/l |
| As | 50 mg/l | Bi | 10 mg/l |
| Ba | 50 mg/l | Se | 10 mg/l |
| Ni | 50 mg/l | Tl | 10 mg/l |
| V | 50 mg/l | | |

| ICP Multi-element standard Solution (XII) - 8 components | | Reference: 109490.L1 | |
|--|---------------|----------------------|---------------|
| | | Volume: 100 ml | |
| | | Matrix: in 5 % HCl | |
| Element | Concentration | Element | Concentration |
| As | 1000 mg/l | Si | 1000 mg/l |
| Mo | 1000 mg/l | W | 1000 mg/l |
| P | 1000 mg/l | V | 1000 mg/l |
| S | 1000 mg/l | Zr | 1000 mg/l |

| Calibration Standard Trace Metals (XIII) - 15 components | | Reference: 109480.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml | |
| | | Matrix: in 5 % HNO ₃ /tr. HF | |
| Element | Concentration | Element | Concentration |
| Al | 500 mg/l | Pb | 100 mg/l |
| V | 250 mg/l | Mn | 100 mg/l |
| As | 100 mg/l | Ni | 100 mg/l |
| Be | 100 mg/l | Zn | 100 mg/l |
| Cr | 100 mg/l | Cd | 25 mg/l |
| Co | 100 mg/l | Se | 25 mg/l |
| Cu | 100 mg/l | Hg | 5 mg/l |
| Fe | 100 mg/l | | |

| Wavelength Calibration Standard (XIV) - 11 components | | Reference: 109481.L1 | | Reference: 109481.L5 | |
|---|---------------|---|---------------|---|---------------|
| | | Volume: 100 ml | | Volume: 500 ml | |
| | | Matrix: in 2 % HCl/tr. HNO ₃ | | Matrix: in 2 % HCl/tr. HNO ₃ | |
| Element | Concentration | Element | Concentration | Element | Concentration |
| P | 100 mg/l | As | 20 mg/l | Mn | 20 mg/l |
| K | 100 mg/l | La | 20 mg/l | Na | 20 mg/l |
| S | 100 mg/l | Li | 20 mg/l | Sc | 20 mg/l |

| ICP Multi-Element Standard Solution XV - 8 components | | Reference: 109482.L1 | | Reference: 109482.L5 | |
|---|---------------|---------------------------------|---------------|---------------------------------|---------------|
| | | Volume: 100 ml | | Volume: 500 ml | |
| | | Matrix: in 2 % HNO ₃ | | Matrix: in 2 % HNO ₃ | |
| Element | Concentration | Element | Concentration | Element | Concentration |
| Ba | 1 mg/l | La | 10 mg/l | Na | 10 mg/l |
| Ca | 1 mg/l | Li | 10 mg/l | Sr | 10 mg/l |
| K | 50 mg/l | Mn | 10 mg/l | | |



| Calibration Standard - Quality Control (XVI) - 21 components | | Reference: 109487.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 2 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Sb | 100 mg/l | Mg | 100 mg/l |
| As | 100 mg/l | Mn | 100 mg/l |
| Be | 100 mg/l | Mo | 100 mg/l |
| Cd | 100 mg/l | Ni | 100 mg/l |
| Ca | 100 mg/l | Sr | 100 mg/l |
| Cr | 100 mg/l | Tl | 100 mg/l |
| Co | 100 mg/l | Ti | 100 mg/l |
| Cu | 100 mg/l | Se | 100 mg/l |
| Fe | 100 mg/l | V | 100 mg/l |
| Pb | 100 mg/l | Zn | 100 mg/l |
| Li | 100 mg/l | | |

| ICP multi-element standard solution XVII - 7 components | | Reference: 109495.L1 | |
|---|---------------|---------------------------------------|---------------|
| | | Volume: 100 ml Matrix: in 15 % HCl | |
| Element | Concentration | Element | Concentration |
| Sb | 100 mg/l | Sn | 100 mg/l |
| Hf | 100 mg/l | Ti | 100 mg/l |
| Ir | 100 mg/l | Zr | 100 mg/l |
| Ta | 100 mg/l | | |

| Wavelength Calibration Standard (V) - 26 components | | Reference: 110714.L1 | |
|---|---------------|--------------------------------------|---------------|
| | | Volume: 100 ml Matrix: in 5 % HCl | |
| Element | Concentration | Element | Concentration |
| K | 100 mg/l | Cd | 2 mg/l |
| Al | 20 mg/l | Cr | 2 mg/l |
| As | 20 mg/l | Cu | 2 mg/l |
| Pb | 20 mg/l | Fe | 2 mg/l |
| Se | 20 mg/l | Li | 2 mg/l |
| Na | 20 mg/l | Ti | 2 mg/l |
| Te | 20 mg/l | Zn | 2 mg/l |
| Ca | 10 mg/l | Be | 1 mg/l |
| P | 10 mg/l | Mg | 1 mg/l |
| Hg | 5 mg/l | Mn | 1 mg/l |
| Ni | 5 mg/l | Sc | 1 mg/l |
| B | 2 mg/l | Sr | 1 mg/l |
| Ba | 2 mg/l | Y | 1 mg/l |

| GF AAS Multi element standard XVIII - 16 components | | Reference: 109500.L1 | |
|---|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 5 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| Sb | 100 mg/l | Cu | 50 mg/l |
| Al | 100 mg/l | Ni | 50 mg/l |
| As | 100 mg/l | Cr | 20 mg/l |
| Pb | 100 mg/l | Fe | 20 mg/l |
| Se | 100 mg/l | Mn | 20 mg/l |
| Tl | 100 mg/l | Ag | 10 mg/l |
| Ba | 50 mg/l | Be | 5 mg/l |
| Co | 50 mg/l | Cd | 5 mg/l |

| IC Multi-element standard VII - 9 components | | Reference: 110322.L1 | |
|--|---------------|---|---------------|
| | | Volume: 100 ml Matrix: in 0.1 % HNO ₃ | |
| Element | Concentration | Element | Concentration |
| NH ₄ ⁺ | 100 mg/l | Mg ²⁺ | 100 mg/l |
| Ba ²⁺ | 100 mg/l | Mn ²⁺ | 100 mg/l |
| Ca ²⁺ | 100 mg/l | Na ⁺ | 100 mg/l |
| K ⁺ | 100 mg/l | Sr ²⁺ | 100 mg/l |
| Li ⁺ | 100 mg/l | | |

| Tuning Standard (XXIV) - 15 components | | Reference: 109411.L1 | | Reference: 109411.L5 | | | |
|--|---------------|---|---------------|---|---------------|---------|---------------|
| | | Volume: 100 ml Matrix: in 1 % HNO ₃ | | Volume: 500 ml Matrix: in 1 % HNO ₃ | | | |
| Element | Concentration | Element | Concentration | Element | Concentration | Element | Concentration |
| K | 500 mg/l | Cd | 50 mg/l | Pb | 50 mg/l | Se | 50 mg/l |
| Al | 50 mg/l | Cr | 50 mg/l | Mn | 50 mg/l | Sr | 50 mg/l |
| As | 50 mg/l | Co | 50 mg/l | Mo | 50 mg/l | Zn | 50 mg/l |
| Ba | 50 mg/l | Cu | 50 mg/l | Ni | 50 mg/l | | |

| ICP-MS Detection Limit Standard (XIX) - 5 components | | Reference: 109496.L1 | |
|--|---------------|----------------------|-------------------------|
| | | Volume: | 100 ml |
| | | Matrix: | in 1 % HNO ₃ |
| Element | Concentration | Element | Concentration |
| Be | 10 µg/l | Tl | 10 µg/l |
| Co | 10 µg/l | U | 10 µg/l |
| In | 10 µg/l | | |

| ICP-MS Optimization Standard (XXII) - 5 components | | Reference: 109499.L1 | |
|--|---------------|----------------------|---------------------------------|
| | | Volume: | 100 ml |
| | | Matrix: | in 2 % HNO ₃ /tr HCl |
| Element | Concentration | Element | Concentration |
| Cd | 200 µg/l | Mg | 200 µg/l |
| Cu | 200 µg/l | Rh | 200 µg/l |
| Pb | 200 µg/l | | |

| ICP-MS Calibration Standard (XXI) - 29 components | | Reference: 109498.L1 | |
|---|---------------|----------------------|-------------------------|
| | | Volume: | 100 ml |
| | | Matrix: | in 5 % HNO ₃ |
| Element | Concentration | Element | Concentration |
| Al | 10 mg/l | Li | 10 mg/l |
| As | 10 mg/l | Mg | 10 mg/l |
| Ba | 10 mg/l | Mn | 10 mg/l |
| Be | 10 mg/l | Ni | 10 mg/l |
| Bi | 10 mg/l | K | 10 mg/l |
| Ca | 10 mg/l | Se | 10 mg/l |
| Cd | 10 mg/l | Ag | 10 mg/l |
| Co | 10 mg/l | Na | 10 mg/l |
| Cr | 10 mg/l | Rb | 10 mg/l |
| Cs | 10 mg/l | Sr | 10 mg/l |
| Cu | 10 mg/l | Tl | 10 mg/l |
| Fe | 10 mg/l | U | 10 mg/l |
| Ga | 10 mg/l | V | 10 mg/l |
| In | 10 mg/l | Zn | 10 mg/l |
| Pb | 10 mg/l | | |

| ICP multi-element standard solution XX - 11 components | | Reference: 109497.L1 | | Reference: 109497.L5 | | | |
|--|---------------|----------------------|-------------------------|----------------------|-------------------------|---------|---------------|
| | | Volume: | 100 ml | | | | |
| | | Matrix: | in 1 % HNO ₃ | Volume: | 500 ml | | |
| | | | | Matrix: | in 1 % HNO ₃ | | |
| Element | Concentration | Element | Concentration | Element | Concentration | Element | Concentration |
| Mg | 10 µg/l | Pb | 10 µg/l | Tl | 10 µg/l | Tb | 10 µg/l |
| Cu | 10 µg/l | Sc | 10 µg/l | Ce | 10 µg/l | Ba | 10 µg/l |
| Cd | 10 µg/l | Rh | 10 µg/l | Ge | 10 µg/l | | |

| Mass Calibration Standard (XXIII)- 15 components | | Reference: 109410.L1 | | Reference: 109411.L5 | | | |
|--|---------------|----------------------|---------------------------------|----------------------|---------------------------------|---------|---------------|
| | | Volume: | 100 ml | | | | |
| | | Matrix: | in 5 % HNO ₃ /tr HCl | Volume: | 500 ml | | |
| | | | | Matrix: | in 5 % HNO ₃ /tr HCl | | |
| Element | Concentration | Element | Concentration | Element | Concentration | Element | Concentration |
| Ba | 1 µg/l | In | 1 µg/l | K | 1 µg/l | Tl | 1 µg/l |
| B | 1 µg/l | Fe | 1 µg/l | Rh | 1 µg/l | U | 1 µg/l |
| Co | 1 µg/l | Li | 1 µg/l | Sc | 1 µg/l | Y | 1 µg/l |
| Ga | 1 µg/l | Lu | 1 µg/l | Na | 1 µg/l | | |

