



# Specification

## Certipur<sup>®</sup> Certified Reference Material

<b>Manufacturer:</b>	<b>Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany</b>
<b>Description of CRM:</b>	<b>ICP multi-element standard I</b>
<b>Art. No.:</b>	<b>1.15474.0100</b>
<b>Traceability:</b>	Element standard solutions are measured applying high precision ICP-OES and are directly traceable to the corresponding <b>NIST SRM<sup>®</sup></b> . <i>NIST: National Institute of Standards and Technology, Gaithersburg, USA.</i>
<b>Minimum shelf life:</b>	3 years
<b>Matrix:</b>	HNO <sub>3</sub> 6%
<b>Nominal value:</b>	<b>See table below</b>
<b>Specification:</b>	<b>See table below</b>

The effective element mass fractions are measured lot specifically.  
The certified effective mass concentrations and the measurement uncertainties are calculated and shown in the table below.

<b>Element</b>	<b>Specification mg/l</b>	<b>Uncertainty** mg/l</b>	<b>NIST Standard Reference Material</b>
<b>Ag</b>	45 - 55	± 3	SRM 3151
<b>Al</b>	90 - 110	± 3	SRM 3101a
<b>B</b>	13.5 - 16.5	± 0.5	SRM 3107
<b>Ba</b>	4.5 - 5.5	± 0.2	SRM 3104a
<b>Be</b>	0.90 - 1.10	± 0.2	SRM 3105a
<b>Bi</b>	180 - 220	± 4	SRM 3106
<b>Cd</b>	18.0 - 22.0	± 0.5	SRM 3108
<b>Co</b>	18.0 - 22.0	± 0.5	SRM 3113
<b>Cr</b>	22.5 - 27.5	± 0.5	SRM 3112a
<b>Cu</b>	18.0 - 22.0	± 0.5	SRM 3114
<b>Fe</b>	13.5 - 16.5	± 0.5	SRM 3126a
<b>Ga</b>	135 - 165	± 3	SRM 3119a
<b>In</b>	180 - 220	± 4	SRM 3124a
<b>Mn</b>	4.50 - 5.50	± 0.2	SRM 3132
<b>Ni</b>	45.0 - 55.0	± 1	SRM 3136
<b>Pb</b>	180 - 220	± 4	SRM 3128
<b>Sr</b>	0.90 - 1.10	± 0.2	SRM 3153a
<b>Tl</b>	360 - 440	± 5	SRM 3158
<b>Zn</b>	18.0 - 22.0	± 0.5	SRM 3168a

**\*\*The measurement uncertainty can vary depending on the primary reference material.**