



# Specification

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

<b>Manufacturer:</b>	Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany
<b>Description of CRM:</b>	<b>ICP Multi-element standard USP-II according to USP &lt;232&gt; parenteral dose</b>
<b>Art. No.:</b>	5.05102.0100
<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>	18 months
<b>Matrix:</b>	HNO <sub>3</sub> 7%
<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>Cd</b>	2.28 – 2.73	± 0.08	SRM 3108
<b>Pb</b>	4.55 – 5.45	± 0.15	SRM 3128
<b>As</b>	1.37 – 1.64	± 0.05	SRM 3103a
<b>Hg</b>	1.37 – 1.64	± 0.05	SRM 3133
<b>Mo</b>	9.10 – 10.9	± 0.3	SRM 3134
<b>Ni</b>	48.5 – 51.5	± 0.5	SRM 3136
<b>V</b>	9.10 – 10.9	± 0.3	SRM 3165
<b>Cu</b>	97.0 – 103	± 1	SRM 3114

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