

# Commitment to Quality: Elevating Certipur<sup>®</sup> Standards to Certified Reference Material

## Newly launched ICP-Multi element Standards & Conductivity Standards

Our unwavering commitment to quality is a top priority as a premier supplier of analytical reagents and high-quality Certified Reference Material grade standards. We have established a robust Quality Assurance System that adheres to ISO 9001 standards, ensuring the utmost quality across all our products. With a strong focus on precision, every product is manufactured to exact specifications, guaranteeing consistent quality and reliability. Our Certipur<sup>®</sup> line of ICP multi-element and Conductivity certified reference material standards, are derived from exceptionally pure starting materials produced in accordance with ISO 17034 guidelines and characterized per ISO/IEC 17025 standards.

We are elevating our Certipur<sup>®</sup> ICP multi-element and Conductivity standard solutions to a higher quality grade, now designated as “Certified Reference Material (CRM).” These solutions are traceable to standard reference materials from NIST. Our comprehensive Certificate of Analysis (COA) will include detailed information on content, composition, traceability, and both release and expiry dates.

**Table 1 : Products to be Discontinued and Newly Launched Direct Replacement ICP-Multi element Standards**

Item Number (to be discontinued)	Product Name (to be discontinued)	MQ level of old item	Quality Grade of old item	New - Replacement Item Number	New Product Name	MQ level of new replacement item	Quality Grade of new replacement item
1094110500	ICP Multi element standard solution XXIV, tuning solution 700 ES Certipur <sup>®</sup>	100	Reference Material	1044470500	ICP Multi element standard solution XXIV certified reference material, (15 elements in diluted nitric acid) tuning solution 700 ES Certipur <sup>®</sup>	300	Certified Reference Material
1094800100	ICP multi-element standard solution XIII, (15 elements in diluted nitric acid) Certipur <sup>®</sup>	100	Reference Material	1044510100	ICP Multi element standard solution XIII certified reference material, (15 elements in diluted nitric acid) Certipur <sup>®</sup>	300	Certified Reference Material
1094810500	ICP multi-element standard solution XIV, (11 elements in dilute hydrochloric acid) 100 mg/l: P, S, K; 20 mg/l: As, La, Li, Mo, Mn, Ni, Sc, Na Certipur <sup>®</sup>	100	Reference Material	1044520500	ICP Multi element standard solution XIV certified reference material, (11 elements in 2% hydrochloric acid) Certipur <sup>®</sup>	300	Certified Reference Material

Item Number (to be discontinued)	Product Name (to be discontinued)	MQ level of old item	Quality Grade of old item	New - Replacement Item Number	New Product Name	MQ level of new replacement item	Quality Grade of new replacement item
1094870100	ICP multi-element standard solution XVI, (21 elements in diluted nitric acid) 100 mg/l: Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Li, Mg, Mn, Mo, Ni, Se, Sr, Tl, Ti, V, Zn Certipur®	100	Reference Material	1044530100	ICP Multi element standard solution XVI certified reference material, (21 elements in diluted nitric acid) Certipur®	300	Certified Reference Material
1094910100	ICP multi-element standard solution XI, for sludge testing (7 elements in dilute nitric acid) Certipur®	100	Reference Material	1044640100	ICP Multi element standard solution XI certified reference material, (7 elements in diluted nitric acid) for sludge testing Certipur®	300	Certified Reference Material
1094920100	ICP multi-element standard solution VIII, (24 elements in dilute nitric acid) 100 mg/l: Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Te, Tl, Zn Certipur®	100	Reference Material	1044790100	ICP Multi element standard solution VIII certified reference material, (24 elements in diluted nitric acid) Certipur®	300	Certified Reference Material
1094930100	ICP multi-element standard solution X, for surface water testing (23 elements in dilute nitric acid) Certipur®	100	Reference Material	1044820100	ICP Multi element standard solution X certified reference material, (23 elements in diluted nitric acid) for surface water testing Certipur®	300	Certified Reference Material
1094940100	ICP multi-element standard solution IX, (9 elements in dilute nitric acid) 100 mg/l: As, Be, Cd, Cr(VI), Hg, Ni, Pb, Se, Tl Certipur®	100	Reference Material	1044830100	ICP Multi element standard solution IX certified reference material, (9 elements in diluted nitric acid) Certipur®	300	Certified Reference Material
1094950100	ICP multi-element standard solution XVII, (7 elements in hydrochloric acid 15%) 100 mg/l: Hf, Ir, Sb, Sn, Ta, Ti, Zr Certipur®	100	Reference Material	1044860100	ICP Multi element standard solution XVII certified reference material, (7 elements in 15% hydrochloric acid) Certipur®	300	Certified Reference Material
1095000100	GF AAS Multi element standard XVIII, (16 elements in diluted nitric acid) Certipur®	100	Reference Material	1044870100	GF AAS Multi element standard solution XVIII certified reference material, (16 elements in diluted nitric acid) Certipur®	300	Certified Reference Material
1105800100	ICP multi-element standard solution VI, for ICP-MS (30 elements in dilute nitric acid) Certipur®	100	Reference Material	1044880100	ICP Multi element standard solution VI certified reference material, (30 elements in diluted nitric acid) for ICP-MS Certipur®	300	Certified Reference Material
1107140500	ICP multielement standard V, for wavelength calibration Certipur®	100	Reference Material	1044920500	ICP Multi element standard solution V certified reference material, (26 elements in 5% hydrochloric acid) for wavelength calibration Certipur®	300	Certified Reference Material
1113550100	ICP multi-element standard solution IV, (23 elements in diluted nitric acid) 1000 mg/l: Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn Certipur®	100	Reference Material	1044980100	ICP Multi element standard solution IV certified reference material, (23 elements in diluted nitric acid) Certipur®	300	Certified Reference Material
1172830100	ICP Multi element standard solution XXV, for MS (29 elements in diluted nitric acid), Certipur®	100	Reference Material	1172830100	ICP Multi element standard solution XXV certified reference material, (29 elements in diluted nitric acid) for MS Certipur®	300	Certified Reference Material
1154740100	ICP multi-element standard solution I (19 elements in dilute nitric acid) Certipur®	100	Reference Material	1044990100	ICP Multi element standard solution I certified reference material (19 elements in diluted nitric acid), Certipur®	300	Certified Reference Material

**Table 2 : Products to be Discontinued and Newly Launched Direct Replacement Conductivity Standards**

Old Item Number	Old Product Name (to be discontinued)	MQ level of old item	Quality Grade of old item	New - Replacement Item Number	New Product Name	MQ Level	Quality Grade of new replacement item
<b>1018100105</b>	Conductivity water (nominal 0 mS/cm), Test solution for measurement of electrolytic conductivity, traceable to PTB Certipur®	100	Analytical Standard	<b>1046040105</b>	Conductivity water (nominal 0 mS/cm) certified reference material, Test solution for measurement of electrolytic conductivity, traceable to PTB Certipur®	300	Certified Reference Material
<b>1018110105</b>	Potassium chloride solution, nominal 0.015 mS/cm, reference material for the measurement of electrolytic conductivity, traceable to PTB (c=0.0001 mol/l) Certipur®	100	Reference Material	<b>1018110105</b>	Potassium chloride solution (nominal 0.015 mS/cm), Certified Reference Material for the measurement of electrolytic conductivity, traceable to PTB (c=0.0001 mol/l) Certipur®	300	Certified Reference Material
<b>1015860001</b>	Potassium chloride solution, nominal 0.147 mS/cm, reference material for the measurement of electrolytic conductivity, traceable to PTB and NIST (c = 0.001 mol/l) Certipur®	100	Reference Material	<b>1015860001</b>	Potassium chloride solution (nominal 0.147 mS/cm), Certified Reference Material for the measurement of electrolytic conductivity, traceable to PTB (c=0.001 mol/l) Certipur®	300	Certified Reference Material
<b>1015530001</b>	Potassium chloride solution, nominal 1.41 mS/cm, reference material for the measurement of electrolytic conductivity, traceable to PTB and NIST (c=0.01 mol/l) Certipur®	100	Reference Material	<b>1015530001</b>	Potassium chloride solution (nominal 1.41 mS/cm), Certified Reference Material for the measurement of electrolytic conductivity, traceable to PTB (c=0.01 mol/l) Certipur®	300	Certified Reference Material
<b>1015540001</b>	Potassium chloride solution (nominal 12.8 mS/cm), reference material for the measurement of electrolytic conductivity, traceable to PTB (c=0.1 mol/l) Certipur®	100	Reference Material	<b>1015540001</b>	Potassium chloride solution (nominal 12.8 mS/cm), Certified Reference Material for the measurement of electrolytic conductivity, traceable to PTB (c=0.1 mol/l) Certipur®	300	Certified Reference Material

The Certificate of Analysis for our newly launched certified reference material grade Certipur® line of ICP-multi element standards & Conductivity Standards includes:

- Certified content tested by high-precision ICP-OES
- Produced under ISO/IEC 17025 and ISO 17034 dual accreditation
- Maximum accuracy with calculated uncertainties, lot-specific values, and traceability to an SI unit through NIST SRM
- Detailed documentation in accordance with ISO Guide 31

To see our full portfolio of ICP-AAS standards visit us at: [ICP-AAS Portfolio](#)

www.sigmaaldrich.com

### Certificate of Analysis – Certified Reference Material


#### Certipur® ICP Multi element standard solution IV


**Producer:** Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany  
**Description of CRM:** ICP Multi element standard solution IV  
**Expiry date:** 2027/08/31  
**Ord. No.:** 1.04498.0100  
**Lot No.:** HC45452898  
**Composition:** 23 elements in HNO<sub>3</sub> Suprapur® 6.5%

Element	Certified value as mass concentration	Associated uncertainty, U=k·u (k=2) as mass concentration	Traceable to NIST SRM®	Batch Code NIST SRM®
Ag	998 mg/l	±20 mg/l	SRM 3151	160729
Al	996 mg/l	±20 mg/l	SRM 3101a	140903
B	993 mg/l	±20 mg/l	SRM 3107	190605
Ba	996 mg/l	±20 mg/l	SRM 3104a	140909
Bi	994 mg/l	±20 mg/l	SRM 3106	180815
Ca	998 mg/l	±20 mg/l	SRM 3109a	130213
Cd	997 mg/l	±20 mg/l	SRM 3108	130116
Co	992 mg/l	±20 mg/l	SRM 3113	190630
Cr	994 mg/l	±20 mg/l	SRM 3112a	170630
Cu	997 mg/l	±20 mg/l	SRM 3114	120618
Fe	995 mg/l	±20 mg/l	SRM 3126a	140812
Ga	998 mg/l	±20 mg/l	SRM 3119a	140124
In	996 mg/l	±20 mg/l	SRM 3124a	110516
K	999 mg/l	±20 mg/l	SRM 3141a	140813
Li	998 mg/l	±20 mg/l	SRM 3129a	100714
Mg	995 mg/l	±20 mg/l	SRM 3131a	140110
Mn	995 mg/l	±20 mg/l	SRM 3132	210714
Na	999 mg/l	±20 mg/l	SRM 3152a	200413
Ni	995 mg/l	±20 mg/l	SRM 3136	120619
Pb	998 mg/l	±20 mg/l	SRM 3128	101026
Sr	998 mg/l	±20 mg/l	SRM 3153a	990906
Tl	996 mg/l	±20 mg/l	SRM 3158	151215
Zn	993 mg/l	±20 mg/l	SRM 3168a	120629

**Accreditation:** Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAKKS as registered reference material producer D-RM-15185-01-00 in accordance with ISO 17034.  
**Certificate issue date:** 2024/09/30

CRM released by Approving Officer or delegate of Quality Control

  
Dipl.-Ing. Ayfer Yildirim  
Responsible Laboratory Manager

  
ISO 17034  
Deutsche Akkreditierungsstelle  
D-RM-15185-01-00

Merck KGaA, Corporation with General Partners, Frankfurter Straße 250, 64293 Darmstadt, Germany  
EMD Millipore Corporation, 400 Summit Drive, Burlington MA 01803, USA, Phone: +1-978-715-4321  
MilliporeSigma Canada Ltd., 2149 Winston Park Dr, Oakville, Ontario, L6H 6J8, Canada,  
Phone: +1 800-565-1400

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www.sigmaaldrich.com

### Certificate of Analysis – Certified Reference Material


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Na	999 mg/l	±20 mg/l	SRM 3152a	200413
Ni	995 mg/l	±20 mg/l	SRM 3136	120619
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ISO 17034  
Deutsche Akkreditierungsstelle  
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Merck KGaA, Corporation with General Partners, Frankfurter Straße 250, 64293 Darmstadt, Germany  
EMD Millipore Corporation, 400 Summit Drive, Burlington MA 01803, USA, Phone: +1-978-715-4321  
MilliporeSigma Canada Ltd., 2149 Winston Park Dr, Oakville, Ontario, L6H 6J8, Canada,  
Phone: +1 800-565-1400

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