



Commitment to Quality: Elevating Certipur® Standards to Certified Reference Material

Newly launched ICP-Multi 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® 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® 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 : Newly launched ICP-Multi element Standards

| Newly launched Item Number | New Product Name | Quality Grade of new product |
|----------------------------|--|------------------------------|
| 1044470500 | ICP Multi element standard solution XXIV certified reference material, (15 elements in diluted nitric acid) tuning solution 700 ES Certipur® | Certified Reference Material |
| 1044510100 | ICP Multi element standard solution XIII certified reference material, (15 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1044520500 | ICP Multi element standard solution XIV certified reference material, (11 elements in 2% hydrochloric acid) Certipur® | Certified Reference Material |
| 1044530100 | ICP Multi element standard solution XVI certified reference material, (21 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1044640100 | ICP Multi element standard solution XI certified reference material, (7 elements in diluted nitric acid) for sludge testing Certipur® | Certified Reference Material |
| 1044790100 | ICP Multi element standard solution VIII certified reference material, (24 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1044820100 | ICP Multi element standard solution X certified reference material, (23 elements in diluted nitric acid) for surface water testing Certipur® | Certified Reference Material |

| Newly launched Item Number | New Product Name | Quality Grade of new product |
|----------------------------|--|------------------------------|
| 1044830100 | ICP Multi element standard solution IX certified reference material, (9 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1044860100 | ICP Multi element standard solution XVII certified reference material, (7 elements in 15% hydrochloric acid) Certipur® | Certified Reference Material |
| 1044870100 | GF AAS Multi element standard solution XVIII certified reference material, (16 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1044880100 | ICP Multi element standard solution VI certified reference material, (30 elements in diluted nitric acid) for ICP-MS Certipur® | Certified Reference Material |
| 1044920500 | ICP Multi element standard solution V certified reference material, (26 elements in 5% hydrochloric acid) for wavelength calibration Certipur® | Certified Reference Material |
| 1044980100 | ICP Multi element standard solution IV certified reference material, (23 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1044990100 | ICP Multi element standard solution I certified reference material, (19 elements in diluted nitric acid) Certipur® | Certified Reference Material |
| 1172830100 | ICP Multi element standard solution XXV certified reference material, (29 elements in diluted nitric acid) for MS Certipur® | Certified Reference Material |

Table 2 : Newly launched Conductivity Standards

| Newly launched Item Number | New Product Name | Quality Grade of new product |
|----------------------------|--|------------------------------|
| 1046040105 | Conductivity water (nominal 0 mS/cm) certified reference material, Test solution for measurement of electrolytic conductivity, traceable to PTB Certipur® | Certified Reference Material |
| 1018110105 | 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® | Certified Reference Material |
| 1015860001 | 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® | Certified Reference Material |
| 1015530001 | 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® | Certified Reference Material |
| 1015540001 | 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® | Certified Reference Material |

The Certificate of Analysis for our newly launched certified reference material grade Certipur® line of ICP-multielement 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](#)



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 HNO₃ 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



Deutsche Akkreditierungsstelle
D-RM-15185-01-00

CRM released by Approving Officer or delegate of Quality Control

A. Yildirim
Dipl.-Ing. Ayfer Yildirim
Responsible Laboratory Manager



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Certificate of Analysis – Certified Reference Material

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| 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 |
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