


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

|   |  |   |
|---|--|---|
|  <p><b>0658</b></p> <p>Accredited to<br/><b>ISO/IEC 17025:2005</b></p> | <p><b>Romil Ltd</b></p> <p>Issue No: 010    Issue date: 21 September 2009</p>  |   |
|   | <p><b>The Source</b><br/>                 Convent Drive<br/>                 Waterbeach<br/>                 Cambridge<br/>                 CB25 9QT</p> | <p><b>Contact: Dr R Lenk</b><br/>                 Tel: +44 (0)1223 863873<br/>                 Fax: +44 (0)1223 862700<br/>                 E-Mail: <a href="mailto:pure.chemistry@romil.com">pure.chemistry@romil.com</a><br/>                 Website: <a href="http://www.romil.com">www.romil.com</a></p> |
| <p><b>Calibration performed at the above address only</b></p>   |  |   |

### DETAIL OF ACCREDITATION

| Measured Quantity<br>Instrument or Gauge   | Range   | Best Measurement<br>Capability Expressed as<br>an Expanded Uncertainty<br>( $k=2$ ) | Remarks  |
|--|---|---|--|
| <p>CONCENTRATION OF<br/>ELEMENT REFERENCE<br/>SOLUTIONS</p> <p>Mono element reference<br/>solutions (PrimAg © plus and<br/>extra)<br/>                     Silver<br/>                     Aluminium<br/>                     Arsenic<br/>                     Boron<br/>                     Barium<br/>                     Bismuth<br/>                     Calcium<br/>                     Cadmium<br/>                     Cobalt<br/>                     Chromium (VI)<br/>                     Copper<br/>                     Iron<br/>                     Gallium<br/>                     Mercury<br/>                     Indium<br/>                     Potassium<br/>                     Lithium<br/>                     Magnesium<br/>                     Manganese<br/>                     Molybdenum<br/>                     Sodium<br/>                     Nickel<br/>                     Lead<br/>                     Sulphur<br/>                     Antimony<br/>                     Scandium<br/>                     Selenium<br/>                     Strontium<br/>                     Tin<br/>                     Vanadium<br/>                     Yttrium<br/>                     Zinc</p> | <p>All in range 0.01-10 000 mg/l at<br/>20 °C</p> | <p>All within 0.3% of certified value</p>   | <p>Uncertainty data relates to<br/>1000 mg/l and 10 000 mg/l<br/>solutions. Other custom made<br/>concentrations may have<br/>different uncertainties.</p> |



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|---|---|---|--|
| <p>CONCENTRATION OF<br/>ELEMENT REFERENCE<br/>SOLUTIONS</p> <p>Mono element reference<br/>solutions (PrimAg ® plus and<br/>extra)<br/>Cerium<br/>Chromium (III)<br/>Lanthanum<br/>Phosphorous</p> <p>Mono element reference<br/>solutions (PrimAg ® plus and<br/>extra)<br/>Aluminium<br/>Dysprosium<br/>Erbium<br/>Europium<br/>Gadolinium<br/>Holmium<br/>Lutetium<br/>Neodymium<br/>Praesodymium<br/>Samarium<br/>Terbium<br/>Thulium<br/>Ytterbium<br/>Zirconium</p> <p>Multi element reference solutions<br/>(PrimAg ® plus)<br/>Silver<br/>Aluminium<br/>Arsenic<br/>Boron<br/>Barium<br/>Bismuth<br/>Calcium<br/>Cadmium<br/>Cobalt<br/>Cerium<br/>Chromium (III)<br/>Chromium (VI)<br/>Copper<br/>Iron<br/>Gallium<br/>Mercury (not in presence of Al)<br/>Indium<br/>Potassium<br/>Lanthanum<br/>Lithium<br/>Magnesium<br/>Manganese<br/>Molybdenum<br/>Sodium</p> | <p>All in range 0.01-10 000 mg/l at<br/>20 °C</p> <p>All in range 0.01-10 000mg/l at<br/>20 °C</p> <p>All in range 0.01-10 000 mg/l at<br/>20 °C each component</p> | <p>All within 0.4% of certified value</p> <p>Individual best measurement<br/>capabilities listed below</p> <p>0.11%<br/>0.12%<br/>0.11%<br/>0.11%<br/>0.12%<br/>0.080%<br/>0.12%<br/>0.087%<br/>0.086%<br/>0.12%<br/>0.088%<br/>0.082%<br/>0.084%<br/>0.12%</p> <p>All within 1% of certified value</p> | <p>Uncertainty data relates to<br/>1000 mg/l and 10 000 mg/l<br/>solutions. Other custom made<br/>concentrations may have<br/>different uncertainties.</p> |



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|---|---|---|--|
| <p>CONCENTRATION OF<br/>ELEMENT REFERENCE<br/>SOLUTIONS</p> <p>Multi element reference solutions<br/>(PrimAg @ plus) (cont'd)</p> <p>Nickel<br/>Phosphorous<br/>Lead<br/>Sulphur<br/>Antimony<br/>Scandium<br/>Selenium<br/>Strontium<br/>Tin<br/>Vanadium<br/>Yttrium<br/>Zinc<br/>Aluminium<br/>Dysprosium<br/>Erbium<br/>Europium<br/>Gadolinium<br/>Holmium<br/>Lutetium<br/>Neodymium<br/>Praesodymium<br/>Samarium<br/>Terbium<br/>Thulium<br/>Ytterbium<br/>Zirconium</p> <p>Mercury (in presence of Al)</p> |   |   | <p>Uncertainty data relates to<br/>1000 mg/l and 10 000 mg/l<br/>solutions. Other custom made<br/>concentrations may have<br/>different uncertainties.</p> |
| <p>CONCENTRATION OF ION<br/>REFERENCE SOLUTIONS</p> <p>Mono ion reference solutions<br/>(PrimAg @ plus)</p> <p>Bromide<br/>Chloride<br/>Iodide<br/>Ammonia<br/>Ammonia-Nitrogen<br/>Ammonium<br/>Ammonium-Nitrogen<br/>Sulphate<br/>Sulphate-Sulphur<br/>Fluoride</p>   | <p>All in range 0.01-10 000 mg/l at<br/>20 °C</p> | <p>Within 1% of certified value</p> <p>All within 0.3% of certified value</p>       | <p>Uncertainty data relates to<br/>1000 mg/l and 10 000 mg/l<br/>solutions. Other custom made<br/>concentrations may have<br/>different uncertainties.</p> |



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| CONCENTRATION OF ION<br>REFERENCE SOLUTIONS   |  |   | Uncertainty data relates to<br>1000 mg/l and 10 000 mg/l<br>solutions. Other custom made<br>concentrations may have<br>different uncertainties. |
| Mono ion reference solutions<br>(PrimAg® plus)  | All in range 0.01-10 000 mg/l at<br>20 °C                | All within 0.4% of certified value  |   |
| Phosphate<br>Phosphate-Phosphorous  |  |   |   |
| Multi ion reference solutions<br>(PrimAg® plus)   | All in range 0.01-10 000 mg/l at<br>20 °C each component | All within 1% of certified value  |   |
| Bromide<br>Chloride<br>Iodide<br>Ammonia<br>Ammonia-Nitrogen<br>Ammonium<br>Ammonium-Nitrogen<br>Phosphate<br>Phosphate-Phosphorous<br>Sulphate<br>Sulphate-Sulphur   |  |   |   |
| ASSAY OF STOICHIOMETRIC<br>REFERENCE MATERIALS<br>(PrimAg® plus)  | All in range >99.8% and<br><100.2%                       | Within 0.2% of certified value  |   |
| Calcium Carbonate<br>Iodine<br>Potassium Dichromate<br>Potassium Hydrogen Pthalate<br>Potassium Iodate<br>Potassium Iodide<br>Sodium Carbonate<br>Sodium Chloride<br>Sulphamic Acid<br>Arsenic Trioxide<br>Benzoic Acid<br>Sodium Oxalate |  |   |   |
| ASSAY OF STOICHIOMETRIC<br>REFERENCE MATERIALS  |  |   |   |
| Potassium Bromide   | In range >99.8% and <100.2%                              | Within 0.3% of certified value  |   |
| EDTA di-sodium salt 2H <sub>2</sub> O   | In range >99.5% and <100.5%                              | Within 0.2% of certified value  |   |

END