

## Suggested Usage Guide

### ROMIL PrimAg<sup>®</sup> Certified Reference Materials

Most PrimAg<sup>®</sup> reference materials are available under the ROMIL accreditation by UKAS (United Kingdom Accreditation Service) to ISO 17034 as a reference material producer.



A practical benefit of such products is that no further validation should be necessary prior to use as reference materials. Neither should a second source or batch be required.

Analysts have solely to decide what level of certification is required to demonstrate compliance with their quality management system, effectively paying only for what is needed.

#### PrimAg<sup>®</sup>-xtra

The highest level of certification is designated PrimAg<sup>®</sup>-xtra. The reference material is accompanied by a certificate detailing as much as we know about the product. From the calibrated assay and estimated uncertainty of the primary constituent through to an analysis of the impurities which are generally at ppb levels.

For use as a certified secondary reference material in ICP applications and only available with the monocomponent elemental (metal) reference solutions. Supplied with a Certificate of Calibration detailing the concentration of the nominal element with corresponding uncertainty. Also gives additional information on metallic impurities as determined by ICP-MS giving the raw data with no correction made for interferences. This allows analysts to make their own corrections according to the specific circumstances of their analysis.

*Available for mono element reference solutions only – with E3 (1000 ppm) or N7 (10,000 ppm) product code prefix.*

#### PrimAg<sup>®</sup>-plus

However, many analysts will not need such comprehensive information. In their judgement of 'fitness for purpose' they may decide that certification of the nominal constituent(s) only will suffice. PrimAg<sup>®</sup>-plus does just that.

For mono-component solutions, use as a certified secondary reference material in AA, voltammetry, ion chromatography and ion-selective electrode measurement. Multi-component solutions are designed for use in ICP spectroscopy, voltammetry and ion chromatography. Supplied with a Certificate of Calibration detailing only the concentration of the nominal element(s) or ion(s) with corresponding uncertainty. No information is provided for impurities.

#### PrimAg<sup>®</sup>-lite

Some more analysts will be content with just a statement of nominal concentration(s) on the product label. This is the basic PrimAg<sup>®</sup> grade which is designed to be used as a reliable QC working reference material for routine analysis.

Both mono- and multi-component solutions are proposed for use as a QC working reference material in all routine atomic spectroscopy, voltammetry, ion chromatography and ion-selective electrode measurements. Certification is not accredited.

Prepared from pure metals, salts, and ROMIL-SpA<sup>™</sup> acids, PrimAg<sup>®</sup> mono- and multi-element reference solutions may be utilised in all types of atomic spectroscopy from AA through to ICP-OES and ICP-MS. Likewise, PrimAg<sup>®</sup> ion reference solutions are similarly formulated for application in ion chromatography (IC) and ion-selective electrode applications (ISE).

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#### ***Do You Really Need a Second Source or Batch?***

If the PrimAg® reference material of interest has ISO 17034 accreditation there should not be a need for a second source or batch. Although a second source was common practice in the days before accredited reference materials became available that is no longer a requirement under modern laboratory quality management systems such as ISO 17025.

We asked a retired Assessment Manager who was the UKAS technical focal point during the introduction of accreditation to ISO 17034:2016. His reply was:

*“Before accreditation for reference materials was possible, a laboratory using a CRM (such as a 1000ppm standard) to prepare calibration standards, would also purchase a separate stock to use for QC purposes. This could have been from a separate supplier, or from the same supplier but with a separate lot number. That way the two stocks essentially cross checked each other each time they were used. Since accreditation for reference material production became available, laboratories have more confidence in the certified value and therefore the QC’s purpose is reduced to issues such as checking for human error in dilution or for contamination of the stock. What many laboratories therefore do is purchase a CRM to use for calibration and on receipt split it into two portions. The portion retained in the original bottle is used for calibration, while the portion which has been decanted into a separate bottle is used as the QC stock. This poses no significant risk to the results being reported and so is adopted in many laboratories accredited to ISO 17025.”*

Through UKAS being a signatory to the EA, IAP and ILAC mutual recognition arrangements this principle should apply to participating national accreditation bodies in other countries.

Nevertheless, we recognise that the second source requirement continues to be a well embedded principle within some organisations’ quality management systems and is certainly appropriate for non-accredited materials.

So what do you do if you really need a second source? At ROMIL we understand your issue.

With our PrimAg® reference solutions we offer a multi-lot option whereby we supply you with material made from batches that have been manufactured independently of each other.

Alternatively, if you already have one batch and would like a separate one then we’ll do that too. Just specify your requirement clearly on your order and we will do the rest.