Is your standard really a standard?

Considering Documentation & Traceability

Ours are. We guarantee!

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Romer Labs® – your trusted global partner for high-quality reference materials
**Reference standards**

The basis of a good analytical method is the availability of appropriate reference standards of defined purity and concentration. If given at all, the purity of chemicals are often claimed to be > 97%. However, the purity of analytical standards is often uncertain. In addition, since most natural and/or industrial contaminants are regulated by cut-off values, standardisation and production of appropriate reference materials are of major concern.

**Romer Labs®**

... is a leading provider of diagnostic solutions to ensure highest quality standards at all stages of the supply chain in the agricultural, food and feed industry. Under the brand **biopure** we offer an extensive list of high-quality reference materials. All our reference materials are accompanied by a certificate of analysis to confirm the concentration and purity.

**Our mission**

... is to provide scientifically sound, high-quality products and services to make the world’s food safer. Our broad range of innovative products and services plays a pivotal role in integrated food safety solutions. With our **biopure** product line, we offer our customers highly purified calibrants in crystalline as well as in liquid form for chemical analysis.

**Your benefits**

- High and consistent quality - using state of the art analytical methods (GC, HPLC, NMR, IR, MSMS) for characterization
- Availability - sufficient capacity to serve the market
- Customized - mixed calibrants for LC-MSMS applications
- Diversity - crystalline and liquid calibrants
- Innovative products - fully carbon $^{13}$C isotope labeled internal standards
- References - our calibrants are used in EU research projects and in numerous scientific publications

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**Important terms and definitions used in connection with reference materials**

**Certified Reference Material (CRM):** Reference material, characterized by a metrologically valid procedure for one or more specified properties.

**Uncertainty:** Estimate attached to a certified value of a quantity which characterizes the range of values within which the “true value” is asserted to lie with a stated level of confidence.

**Traceability:** Property of the result of a measurement or the value of a standard whereby it can be related, with a stated uncertainty, to stated references through an unbroken chain of comparisons.
Reference Materials as Tools for Traceability in Chemical Analysis

Every day, thousands of chemical measurements support decisions on food safety, health and environmental protection. The global market needs accurate and reliable measurements so that technical barriers to trade can be minimized. To achieve worldwide comparability of results, it is essential to link all the individual measurement results to some common, stable reference or measurement standard with a consistent and agreed set of measurement units and scales. This strategy of linking results to a reference is termed “traceability”.

Reference materials (RM) play an important role as they build the link between the individual measurement result and international recognized standards in the traceability chain. In order to obtain a traceable result in SI units, two fundamental preconditions must be fulfilled:

• the RM itself must carry a SI-traceable value and an attached uncertainty
• the uncertainty must be evaluated according to common rules (e.g. GUM, Eurachem Guide)

Finally, property values with a stated level of uncertainty of the RM should be clearly stated in a certificate of analysis.

Rules and guidelines for the production and certification of reference materials

<table>
<thead>
<tr>
<th>Guide</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISO 30</td>
<td>Terms and definitions used in connection with reference materials</td>
</tr>
<tr>
<td>ISO 31</td>
<td>Contents of certificates of reference materials</td>
</tr>
<tr>
<td>ISO 32</td>
<td>Calibration of chemical analysis and use of certified reference materials</td>
</tr>
<tr>
<td>ISO 33</td>
<td>Use of certified reference materials</td>
</tr>
<tr>
<td>ISO 34</td>
<td>Quality system guidelines for the production of reference materials</td>
</tr>
<tr>
<td>ISO 35</td>
<td>Certification of reference materials – General and statistic principles</td>
</tr>
<tr>
<td>ISO 17025</td>
<td>General requirements for the competence of testing and calibration laboratories</td>
</tr>
</tbody>
</table>

(ISO Guide 30):
accompanies a certificate that provides the value of the specified property, its associated uncertainty, and a statement of metrological traceability, to lie with a stated level of confidence.