

1. COMPANY INFORMATIONS

Labsert is an international manufacturer of reference standard materials. All tests and analysis are carried out by ISO/IEC 17025 accredited Labsert's sub-contracted business partner Duzen Norwest Lab. (Turkak Accreditation No: AB-0375-T) and/or Labsert laboratory. Certificate of analysis is presented according to ISO 17034 requirements (Tur Cert. No: 20180718172822). Labsert is registered in reference material producer database (REMBIS) in TURKAK.

2. DESCRIPTION OF CERTIFIED REFERENCE MATERIAL (CRM)

Product Name	ICP-MS Mixture Custom-Made Standard Solution of - 190017		
Product Code	ICP.C.190017		
Lot Number	ICPC190017- xxxxxx		
Matrix	3% HNO ₃ + 0.1% HF		
		Total Components	3
		*Density (g/cm ³ 25 °C)	1,001

3. CERTIFIED VALUE / UNCERTAINTY

NISR SRM	Component	Symbol	Concentration	Certified Value	Uncertainty ±
3129a	Lithium	Li	100,0 (mg/l)	100,00 (mg/l)	0,70 (mg/l)
3161	Tin	Sn	100,0 (mg/l)	100,00 (mg/l)	0,40 (mg/l)
3139a	Phosphorus	P	100,0 (mg/l)	100,00 (mg/l)	0,70 (mg/l)

4. PREPARATION AND CERTIFICATION INFORMATIONS

4.1. The certified value is obtained by gravimetric and volumetric preparations from the assign value which is confirmed against certified reference materials traceable to SI of NIST (National Institute of Standards and Technology (when available)), using one or two instrumental methods by ISO 17025 accredited laboratory which is sub-contracted business partner of Labsert. Certified value where one method is used, is the mean of individual results. Certified value where two methods are used, is the weighted mean of two results. The reported expanded uncertainty of measurement is calculated for a 95% confidence interval using a coverage factor of $k = 2$.

4.2. The reference standard solution is manufactured using a high-purity starting material. The matrix of standard solution is 18 MOhm deionized water and chromatography grade acid solution (If necessary).

5. TRACEABILITY STATEMENT

a. Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties (ISO VIM, 2nd ed., 1993, definition 6.10)

b. The measurement results are traceable to SI. All analytical balances are calibrated yearly by ISO 17025 accredited metrology service (TURKAK accreditation no: AB-0076-K) and are verified monthly by an in-house method using NIST traceable analytical weights (NIST Test No: 684/289871-17). Analytical balances are also weekly checked by using Class A laboratory glassware.

c. Automatic equipments are calibrated yearly verified by ISO 17025 accredited metrology service (TURKAK accreditation no: AB-0076-K) and are verified weekly by an in-house method.

6. INTENDED USE

This reference standard solution is for laboratory use only and it is intended for the calibration of analytical instruments such as Ion Chromatography, HPLC, UV/VIS, MS, ICP. This reference standard solution is also intended for validation of analytical methods, detection limit and linearity studies, preparation of "working reference samples". This statement is not intended to restrict the use for other purposes.

7. INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1. Stability, Storage and Handling

This certified reference material is used with a guaranteed stability until $\pm 0.5\%$ of the certified concentration within its shelf life. For the guaranteed stability, keep it in its original packaging, tightly capped when it is not in use and store at 20 ± 4 °C. Do not pipette from the container. Do not return portions removed from pipetting to container.

* These values are not certified

8. HAZARDOUS INFORMATION

Please refer to Safety Data Sheet (SDS) for hazardous information regarding this certified reference material.

9. HOMOGENEITY

This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. To achieve the sufficient homogeneity, please mix the sample slowly by inversion while it is capped.

10. EXPIRATION INFORMATION

The expiration date is guaranteed to be valid when this certified reference material is kept in original unopened bottle and aluminized bag according to the instructions in article 7.1. Recommended period of use should not exceed 6 months from the date of opening.

Certification Date: 2.08.2019

Retest Date:

Expiration (Month): 12

Expiration Date: 08.2020

11. NAMES OF CERTIFYING OFFICERS

Prepared By: Buket POLAT (Chemical Engineer)
Quality System Officer

Controlled By: Koray CENGİZ (Chemist M.Sc.)
General Manager

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