



IDENTIFICATION SHEET

Aqueous calibration solution ASTASOL[®]

ASTASOL[®] TUNE10

This Identification sheet is designed in accordance with ISO Guide 31

Category: Traced reference materials

Analytes: Fe, Hf, Li, Nd, Pb, Sr, Tl, U

Product code: TUNE10

Starting primary compounds and theirs purities (%):

Fe 99.998; Hf 99.5; Li₂CO₃ 99.999; Nd₂O₃ 99.997; Pb 99.999; SrCO₃ 99.994; TINO₃ 99.9995, UO₂(NO₃)₂ · 6H₂O 99.5

Matrix:

3% HNO₃ (v/v), prepared from sub boil distilled HNO₃ (ANALPURE[®]) and ultrapure demineralized water (resistivity ≥ 18 MΩ.cm, 0.22μm filtered) with traces of HF (ANALPURE[®])

Assigned concentration value and expanded uncertainty (k = 2) at 20 °C

Fe	3 000 ± 60 μg/l	Li	1 000 ± 20 μg/l
Hf, Nd, Pb, Sr, U	200 ± 4 μg/l	Tl	50 ± 1 μg/l

Specification:

Batch No.: 10448

The date of production: 31.08.2023

Expiry date: 31.08.2024

Intended use:

As a calibrator of analytical methods analysing aqueous solutions such as atomic spectrometry (AAS, AES, ICP-OES, ICP-MS), molecular absorption spectrometry and selected electroanalytical methods.

Characterization and traceability:

This RM has an assigned value of concentration and uncertainty on the basis of gravimetric preparation. Traceability is realized with CRM AN 9019(1N), AN 9023(1FN), AN 9030(1N), AN 9037(1N), AN 9041(1N), AN 9056(1N), AN 9062(1N) and AN 9064(1N) through a short unbroken chain of calibrations (AAS, AES, ICP-OES) or comparisons (primary analytical methods). All mentioned CRM AN are traceable to the corresponding SRMs NIST

Trace impurities in bottled solution (in µg/l):

Max. 5 (total)

Homogeneity and stability:

It has been demonstrated that this RM is homogeneous and its stability is guaranteed during the whole shelf life provided the solution it kept under conditions presented below.

Storing and instruction for use:

This RM has to be stored in the original closed bottle between 5 – 30 °C. The producer guarantees a declared expiration time provided the RM is properly stored and professionally handled. The temperature of the solution must be 20 ± 0.5 °C before every use. It is important to cover the screw cap and the neck of the bottle with a parafilm layer after each opening to prevent vapour phase losses. It is not recommended to use the standard solution when the bottle contains less than 10 % of the solution. Therefore, in case of nontransparent bottle, it is important to indicate the amount of the solution used, e.g. on the label. Do not pipette from the bottle. Do not return removed aliquots to bottle.

Producer:

ANALYTIKA®, spol. s r.o.
Department of reference materials
Ke Klíčovu 2a/816
190 00 Prague 9 – Vysočany
Czech Republic

www.analytika.net
sales@analytika.net

Phone/Fax: +420 286 589 616

Quality management systems:

The Producer has a certified quality management system ČSN EN ISO 9001: 2016.

The Producer meets the requirements of ČSN EN ISO 17034:2017: General requirements for the competence of reference material producers.

Head of production department:

Mgr. Mirka Petránková

Date of the first issue of IS: 31.08.2023

Revision of IS:

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