ANALYTIKA®, spol. s r.o.
Khodlova 1297/47, CZ-193 00 Praha 9 – Horní Počernice
www.analytika.net

IDENTIFICATION SHEET

Aqueous calibration solution ASTASOL®

ASTASOL® TUNE06

This Identification sheet is designed in accordance with ISO Guide 31

Category: **Traced reference materials**

Analytes: **Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Ge, Hf, Ho, In, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Nd, Ni, P, Pb, Pd, Pr, Rb, Re, Sb, Se, Sc, Si, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr**

Product code: **TUNE06**

Starting primary compounds and theirs purities (%):

Ag 99.9999; Al 99.999; As 99.9999; H_3BO_3 99.99; $BaCO_3$ 99.997; Be 99.5; Bi 99.999; $CaCO_3$ 99.995; Cd 99.999; $Ce(NO_3)_3$. $6H_2O$ 99.99; Co 99.998; $Cr(NO_3)_3.9H_2O$ 99.995; $CsNO_3$ 99.999; Cu 99.999; Dy_2O_3 99.99; Er_2O_3 99.99; Eu_2O_3 99.996; Fe 99.99; Ga 99.9999; Gd_2O_3 99.999; Ge 99.99; Hf 99.95; Ho_2O_3 99.999; In 99.999; KNO_3 99.995; La_2O_3 99.999; Li_2CO_3 99.999; Lu_2O_3 99.995; Mg 99.98; Mn 99.98; Mo 99.999; $NaNO_3$ 99.99; Nb 99.99; Ni 99.995; Nd_2O_3 99.997; $NH_4H_2PO_4$ 99.999; Pb 99.999; Pd 99.999; Pr_6O_{11} 99.996; $RbNO_3$ 99.975; NH_4ReO_4 99.999; Sb 99.999; Se 99.999; Sc_2O_3 99.99; $(NH_4)_2SiF_6$ 99.999; Sm_2O_3 99.99; Sn 99.999; $SrCO_3$ 99.994; Ta 99.98; Tb_4O_7 99.998; Te 99.999; $Th(NO_3)_4$. $5H_2O$ 99.5; Ti 99.99; $TlNO_3$ 99.9995; Tm_2O_3 99.995; $UO_2(NO_3)_2$. 6 H_2O 99.95; V_2O_5 99.99; W 99.999; Y_2O_3 99.99; Yb_2O_3 99.998; Zn 99.998; Zr 99.8

Matrix:

2% HNO_3 (v/v), prepared from sub boil distilled HNO_3 (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

50.0 ± 0.5 µg/l (each analyte)

Specification:

Batch No.: 10561

The date of production: 10.09.2023

Expiry date: 10.09.2024

ANALYTIKA®, spol. s r.o., Oddělení referenčních materiálů / Department of reference materials
Ke Klíčovu 2a/816, CZ-190 00 Praha 9 – Vysočany, Tel/Fax: +420 286 589 616, sales@analytika.net, www.analytika.net

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 9001(1N), AN 9002(1N), AN 9003(1N), AN 9005(1H), AN 9006(1N), AN 9007(1N), AN 9008(1N), AN 9009(1N), AN 9010(1N), AN 9011(1N), AN 9012(1N), AN 9013(1N), AN 9014(1N), AN 9015(1N), AN 9016(1N), AN 9017(1N), AN 9018(1N), AN 9019(1N), AN 9020(1N), AN 9021(1N), AN 9022(1FN), AN 9023(1N), AN 9025(1N), AN 9026(1N), AN 9028(1N), AN 9029(1N), AN 9030(1N), AN 9031(1N), AN 9032(1N), AN 9033(1N), AN 9034(1A), AN 9035(1N), AN 9036(1FN), AN 9037(1N), AN 9038(1N), AN 9040(1S), AN 9041(1N), AN 9042(1C), AN 9043(1N), AN 9045(1N), AN 9046(1H), AN 9050(1C), AN 9051(1N), AN 9052(1N), AN 9053(1N), AN 9054(1N), AN 9055(1C), AN 9056(1N), AN 9057(1FN), AN 9058(1N), AN 9059(1N), AN 9060(1N), AN 9061(1FN), AN 9062(1N), AN 9063(1N), AN 9064(1N), AN 9065(1N), AN 9066(1A), AN 9067(1N), AN 9068(1N), AN 9069(1N), and AN 9070(1FN), 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. 0.3 µg/l (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 pippette from the bottle. Do not return removed aliquots to bottle.

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Producer:

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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

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Revision of IS:

IS revision date:

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