

## **CERTIFICATE**

### **Aqueous calibration solution**

### **ASTASOL® AN90661FN**

This Certificate is designed in accordance with ISO Guide 31

**Category:** **Certified reference material**

**Analyte:** **Tungsten (W)**

**Product code:** **AN90661FN**

**Starting primary compound and its purity:** **W 99.999%**

**Matrix:**

5% HNO<sub>3</sub> (v/v), prepared from sub boil distilled HNO<sub>3</sub> (ANALPURE®), 1% HF (v/v), prepared from sub boil distilled HF (ANALPURE®) and ultrapure demineralized water (resistivity ≥ 18MΩ.cm, 0.22μm filtered)

**Density and its expanded uncertainty (k = 2):** **1.0311 ± 0.0005 g/cm<sup>3</sup> (at 20 °C)**

**Certified value of concentration and its expanded uncertainty (k = 2) at 20 °C**

**1 000 ± 2 mg/l**

**970 ± 3 mg/kg\***

\*Mass fraction in mg/kg is derived from density

**Specification:**

**Batch No.:** 9003

**The date of production:** 10.02.2023

**Shelf life:** 5 years from the date of production

**The date of first opening of the aluminium bag:** .....

**Expiry date:**.....12 months from the first opening of the aluminium bag within shelf life period, which should be indicated on the label of the bottle as well.



bag. It is not recommended to use the standard solution when the bottle contains less than 10 % of the solution. Therefore, in case of non-transparent 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.

**Note:**

Detailed information about the production, homogeneity, stability, coding, characterization and storing of this CRM are described in the document “Detailed information about the production of aqueous calibration solutions ASTASOL®” which is available for download on the website [www.analytika.net](http://www.analytika.net).

**Producer:**

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

[www.analytika.net](http://www.analytika.net)  
[sales@analytika.net](mailto:sales@analytika.net)

Phone/Fax: +420 286 589 616

**Quality management systems of company ANALYTIKA®, spol. s r.o.:**

ČSN EN ISO 9001:2016  
ČSN EN ISO/IEC 17025:2018  
ČSN EN ISO 17034:2017

**Manager of Department of RM:**

Ing. Daniela Weissarová

Date of the first issue of certificate: 14.02.2023

Certificate revision date:

**Head of production department:**

Mgr. Mirka Petránková

Revision of certificate:

Version of certificate: 01