

## **CERTIFICATE**

### **Aqueous calibration solution**

### **ASTASOL® TIOC1H**

This Certificate is designed in accordance with ISO Guide 31

**Category:** Certified reference material  
**Analyte:**  $C_{inorg} + C_{org}$  (TIC + TOC) 1:1  
**Product code:** TIOC1H

**Starting primary compound and theirs purity:**

Na<sub>2</sub>CO<sub>3</sub> 99.99+; NaHCO<sub>3</sub> 99.99+; potassium hydrogenphthalate 99.95

**Matrix:**

Ultrapure demineralized water (resistivity  $\geq 18$  M $\Omega$ .cm, 0.22 $\mu$ m filtered).

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

**1 000  $\pm$  2 mg C/l**

**Specification:**

**Batch No.:** 0034

**The date of production:** 18.10.2023

**Shelf life:** 2 years from the date of production

**The date of first opening of the bottle:** .....

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

**Intended use:**

Calibration solution for the determination of inorganic and organic carbon.

**Characterization and traceability:**

This CRM is certified on the basis of gravimetric preparation. This procedure also ensures a direct traceability to SI unit – kg.

**Trace impurities in bottled solution:**

---

Max. 0.1 mg/l (total)

**Homogeneity and stability:**

---

It has been demonstrated that this CRM 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 CRM must be stored in the original closed bottle between 2 – 10 °C (fridge). The producer guarantees a declared shelf life and expiration time provided the CRM is properly stored and professionally handled. The temperature of the solution must be  $20 \pm 0.5$  °C before every use. It is necessary to indicate the expiration time on this certificate and on the label, which depends on the date of the first time the bottle was opened. After use, the bottle must be immediately tightly capped and sealing the screw cap with parafilm is recommended. 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.

**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 Weisserová

**Head of production department:**

Mgr. Mirka Petránková

Date of the first issue of certificate: 18.10.2023

Revision of certificate:

Certificate revision date:

Version of certificate: 01