Fisher Chemical

# CERTIFICATE OF ANALYSIS

## *Eluent Concentrate Solution for Ion Chromatography*

| | |
|---|---|
| **Description:** | 0.5M Sodium Carbonate |
| **Lot N:** | 1082481 |
| **Ref N:** | 12972235 |
| **Certified Value:** | 0.5000 +/- 0.0025 M<br>**the uncertainty is calculated as: $U=ku_c$, where k is the multiplier for a 95% level of confidence interval (Table B.1 of Guidelines for Evaluating and Expressing the uncertainty of NIST measurement results), and $u_c$ is the combinated standard uncertainty calculated acc. ISO Guide to the Expression of Uncertainty in Measurement* |
| **Barcode:** | 83166679 |
| **Starting Material (Lot N):** | $Na_2CO_3$ 99.999% (82124632) |
| **Method, Reference:** | Potentiometric titration with 0.5000M Hydrochloric Acid (HCl) traceable to BAM RefN 93440 LotN BCBM3204V |
| **Shelf Life* :** | 28.02.2026 |

** The **shelf life** is the specified length of time prior to use for which a properly packaged and stored standard solution remains within the specified uncertainty.*

**Trace impurities in the actual solution by IC reported in ppm:**

| | |
|---|---|
| $Br^-$ | < 0.10 |
| $Cl^-$ | < 1.00 |
| $ClO_{3-}$ | < 20 |
| $F^-$ | < 0.10 |
| $I^-$ | < 0.30 |
| $NO_{3-}$ | < 0.15 |
| $SO_{42-}$ | < 0.20 |

This concentrate solution is intended to use for preparation of various $CO_{3-2}$ / $HCO_{3-}$ eluents. It was manufactured using high-purity salt, 18 MOhm double deionized water, calibrated Class A glassware, and High density polyethilene bottle, decontaminated by leaching with high purity acids, 18 megohm deionised water and triple rinse. Finally this eluent concentrate solution was filtered trough 0.2 micron to eliminate impurities. Balances are calibrated with weights, traceable to NIST. This solution is guaranteed stable to +/-0.5% of the certified concentration inclusive of uncertainty of measurements and other effects, such as transpiration losses for a period of 12 months. Stability and accuracy are guaranteed if the solution is tightly capped and stored under normal laboratory conditions.
This solution has been prepared and certified under an ISO 9001:2015 system.

**Instruction for Use:**
Use only Class A volumetric glassware thoroughly cleaned and leached prior to use. Never pipette directly from the bottle.
Dilute 1 : 100 with water for Ion Chromatography to prepare 0.005 M $Na_2CO3$
The concentration (in M) of the resulting working solution can be calculated multiplying the volume of the eluent concentrate solution (ml) by the certified value (M), and dividing by the calibrating volume (ml) of the flask used for dilution.

**Date of Certification:** 30.01.2025

*Signed by:* Zaralova *, Chemical Production Manager*

Fisher Scientific UK
Bishop Meadow Road, Loughborough, Leicestershire
LE11 5RG, United Kingdom
Website: www.fisher.co.uk
Tel.: +44(0)1509 55 59 54 Fax: +44(0)1509 55 55 44