Art. No: **ETH-400-1ML**
Lot No: **12052023-B**
Expiry Date: **May 2028**
CoA No: **QC-COA-ETH-400-12052023-B.1**

Certificate of Analysis

Certified Reference Material

Aqueous Ethanol Standard Solution 400 mg/dL

Description	Ethanol diluted in Water 400 mg EtOH / dL Water (0.400 % by mass) 1 mL / ampoule
Certified Concentration	**Ethanol 400.0 mg/dL ± 0.209 mg/dL**

Expanded uncertainty of the certified concentration is in accordance with ISO/IEC 17025 at the 95% confidence interval using a coverage factor of k=2.

Metrological traceability

The certified reference material was produced in own facilities by weight of used solvent on calibrated balance(s) and traceable, following ISO/IEC 17025 guideline, to SI units.

The expanded uncertainty has been calculated and incorporates the following contributors:

- Mass of the solvent(s), including the calibration and repeatability uncertainties of the balance.
- Purity of the solvent(s), measured on pure solvent(s) including water content and GC/FID purity.
- Volume of the dilution, including uncertainties of volumetric measurement and temperature effects.

Procedure

The pure solvent is weighed into a volumetric flask, further diluted and the procedure is temperature monitored. The resulting dilution is filled into ampoules with a sufficient excess to allow complete volume withdrawal of the above given volume.

Homogeneity of the solution for the dilution of small amounts into a suitable diluent is ensured through adequate production conditions and therefore excluded from the uncertainty calculation.

Stability is ensured through real time stability studies on concentrations between 10 mg/dL and 700 mg/dL and found negligible inside the limits of the used analytical method and is therefore excluded from the uncertainty calculation.

Intended Use

The product is intended to be used for chromatographic analytic methods.

For analytical purposes only – not for human or animal use!

Storage Conditions

Store unopened below 30°C protected from light. Do not freeze. Opened ampoules must be used up in between 24 hours.

Lipomed certifies and warrants that this product conforms to the specifications stated in this certificate under the above storage conditions until its expiry date.

This certificate is issued electronically by Dr. L. Prévot (*Responsible Person Reference Materials*) on 21-Jun-2023 at Arlesheim and valid without signature.

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Information on used solvent(s)

Name:	Ethanol
Mol Weight:	46.07 g/mol
CAS number:	64-17-5
Purity:	100.0 %
Water content:	0.01 %

The control is based on GC/FID and Karl-Fischer-Titration.

History (CoA)

Version	Change	Date
001	New version	21-Jun-2023

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