



Australian Government

**National Measurement
Institute**

Australian Certified Reference Material (ACRM)

Certification of a reference material in Accordance with Regulation 48 of the *National Measurement Regulations 1999* (Cth) in Accordance with the *National Measurement Act 1960* (Cth)

Name and/or description of the ACRM: Aqueous ethanol solution

Identifying marks and batch number: ETOH 25-03

Date on which property values of the ACRM were established: 13 August 2025

Date of certification: 6 October 2025

Date of expiry of certificate: 31 January 2027

Certified property value of the ACRM: 4.89 g of ethanol per kg of solution

Method used to establish the property value: Exact matching double isotope dilution gas chromatography mass spectrometry

The reported property values are traceable to Australian legal units of measurement by comparison, directly or indirectly, with Australian primary standards of measurement and/or Australian certified reference materials.

Uncertainty of certified property value: ± 0.07 g of ethanol per kg of solution ($k=2.0$)

This uncertainty has been ascertained in accordance with the principles in JCGM 100: 2008 *Evaluation of Measurement Data — Guide to the Expression of Uncertainty in Measurement*, with an interval estimated to have a confidence level of 95% at the time of certification.

Storage and transport information relevant to the certification: Store at 4 – 10 °C.

Stability under transport conditions has been demonstrated at 40 °C for up to seven days.

Signature:

Date: 6 October 2025

Name of signatory: Mark Lewin

Position held: A/g Manager, Chemical Reference
Values

Being a person with powers delegated by the Chief Metrologist under Section 18D of the National Measurement Act 1960 (Cth) in respect of regulation 48 of the *National Measurement Regulations 1999* (Cth) (the Regulations), I hereby certify the above reference material as an Australian certified reference material in accordance with the Regulations.