

Certificate of Analysis

Reference Material & Standard

Product Name:	4-Ethylmorpholine	Catalogue Number:	CS102532
Synonyms:	N/A	Lot Number:	0710-RE-0058
CAS Number:	100-74-3	Expiry Date:	Jul 11, 2027
Molecular Formula:	C ₆ H ₁₃ NO	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	115.17		

Warning:



Chemical Structure: N/A

Test Items	Method	Results
Appearance	Visual inspection	Colourless Liquid
Identification	GCMS&HNMR	Confirmed
Purity	GC	99.089%
Water Content	Karl Fischer	0.4719%
Assay		98.6%
Uncertainty		±2.0%

Comment:

- The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

$$\text{Assay (\%)} = (100\% - \text{Water Content}) * \text{Purity GC (\%)} / 100\%$$

Water Content is considered as absolute effect, GC purity is considered as relative effect.
- The uncertainty values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Signature:

Prepared by:

Nice

Reviewed by:

Lisa

Approved by General Manager:

David

Date: Jul 12, 2023

Date: Jul 13, 2023

Date: Jul 13, 2023



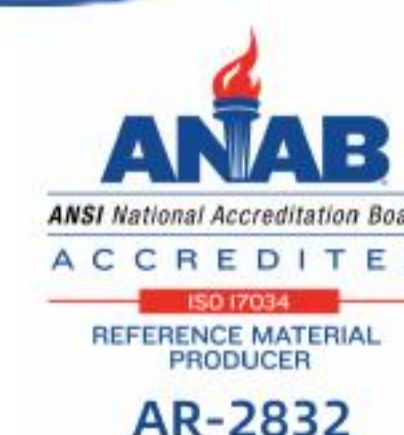
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