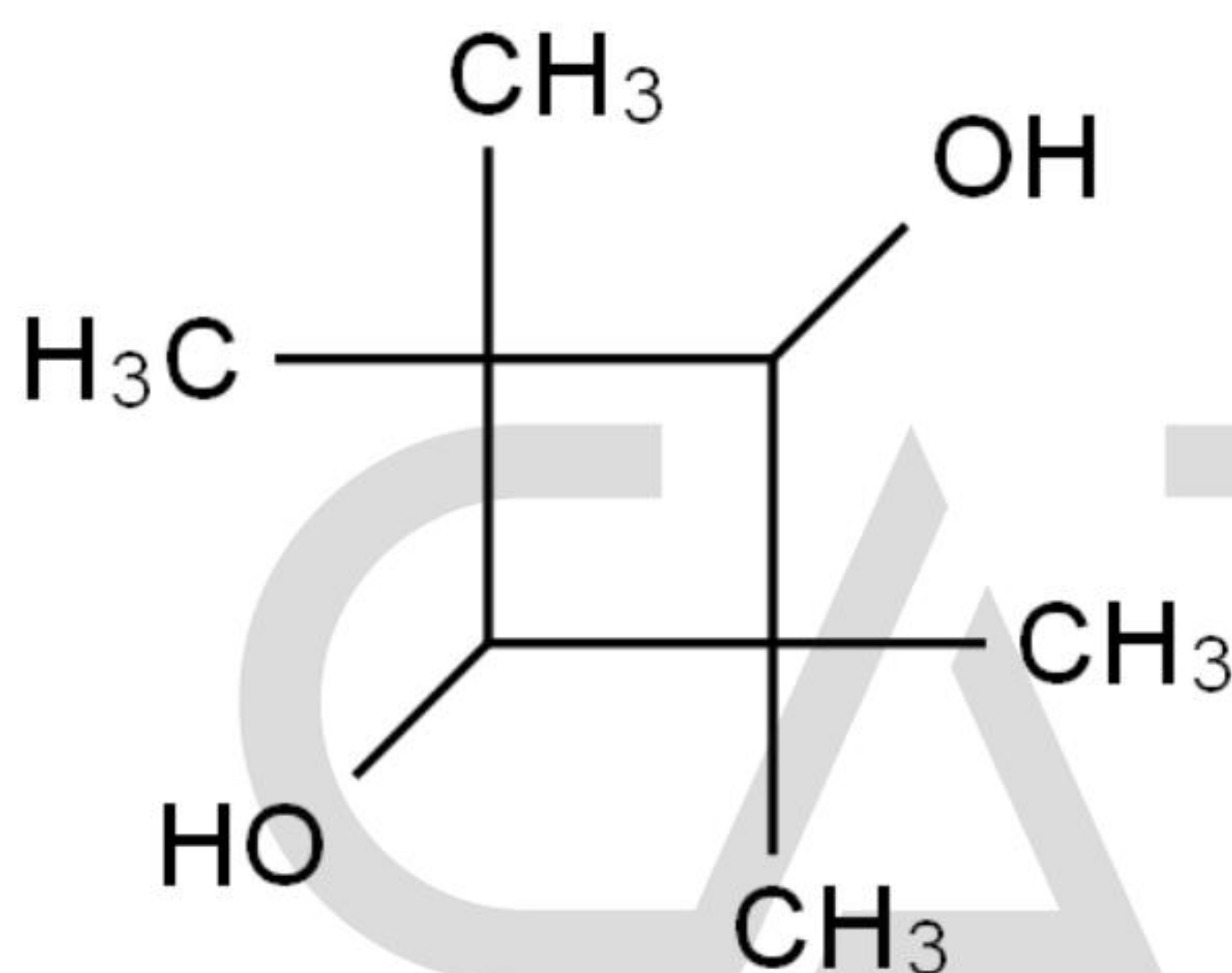


Certificate of Analysis

Reference Material & Standard

Product Name:	2,2,4,4-Tetramethyl-1,3-cyclobutanediol (mixture of isomers)	Catalogue Number:	CCHM700953
Synonyms:	N/A	Lot Number:	1128-RF-0047
CAS Number:	3010-96-6	Expiry Date:	Nov 27, 2028
Molecular Formula:	C ₈ H ₁₆ O ₂	Storage:	Room Temp Protected from light and Sealed
Molecular Weight:	144.21	Warning:	 

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White Solid
Identification	GCMS&HNMR	Confirmed
Purity	GC	96.513%
Water Content	Karl Fischer	0.4496%
Assay		96.1%
Uncertainty		±2.0%

Comment:

1. The calculation of the 100% 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.

2. 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:

Koi

Approved by General Manager:

David

Date: Nov 28, 2024

Date: Nov 28, 2024

Date: Nov 28, 2024

