



CERTIFICATE OF ANALYSIS

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1. Identification

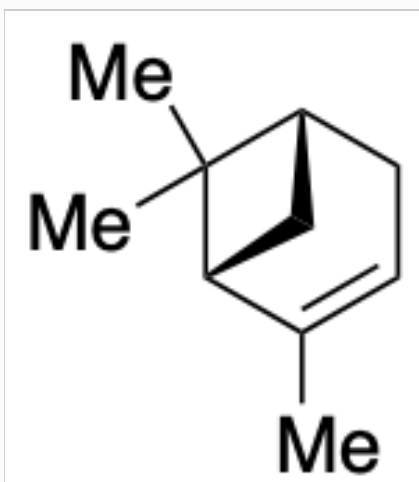
Catalogue Number: P466613

CAS Number: 7785-70-8

Product: (1R)-(+)- α -Pinene

Synonym: (1R,5R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene; (1R,5R)-(+)-2-Pinene; (1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene; (+)-(1R)- α -Pinene; (+)-2-Pinene; (+)- α -Pinene; (1R,5R)-(+)- α -Pinene; (R)-(+)- α -Pinene; 1R- α -Pinene; d- α -Pinene;

Structure:



Molecular Formula:

$C_{10}H_{16}$

Molecular weight:

136.23

Source of Product:

N/A

Solubility:

Chloroform (Sparingly), Ethyl Acetate (Slightly)

Lot Number: 711960827-1-1

Purity: 98%

Shipping Condition: This Product Is Stable To Be Shipped At Room Temperature

Storage Condition: 4°C

2. Warning

Warning 1:

Warning 2:

Warning 3:

3. Analytical Information

Tests:	Specifications:	Results:
Appearance	Colourless Oil	Clear Colourless Oil
Elemental Analysis	Conforms	%C: 89.51, %H: 12.20
NMR	Conforms to Structure	Conforms
C NMR	Conforms to Structure	Conforms
MS	Conforms to Structure	Conforms
Specific Rotation	Report Result	+53.9° (c = 0.2, Chloroform)
GC Purity	Report Result	98.90%

Additional Information: N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of $\pm 2\%$. Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

4. Signatures

Reviewed By	Reviewed By	C of A Approved By	Test Date	Retest Date
Nicole Yip	Toni Rantanen	Christina Gouliaras	2/26/2024	2/24/2028
				