



CERTIFICATE OF ANALYSIS

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1. Identification

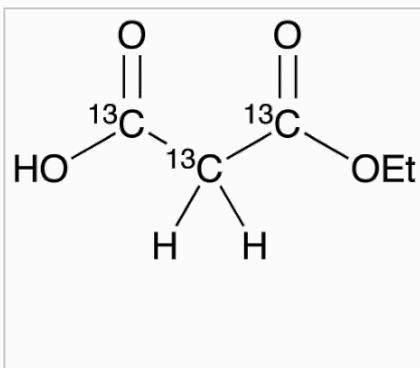
Catalogue Number: M542525

CAS Number: 1189981-54-1

Product: Mono-Ethyl Malonate-1,2,3-¹³C₃

Synonym: Propanedioic Acid Monoethyl Ester-¹³C₃;
(Ethoxycarbonyl)acetic Acid-¹³C₃; 3-Ethoxy-
3-oxopropanoic Acid-¹³C₃;

Structure:



Molecular Formula:

C₂¹³C₃H₈O₄

Molecular weight:

135.09

Source of Product:

Synthetic

Solubility:

Chloroform (Slightly),
Methanol (Slightly)

Lot Number: 12-JMR-147-3

Purity: 95%

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
NMR	Conforms to Structure	Conforms
C NMR	Conforms to Structure	Conforms
MS	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 44.15, %H: 6.36
Isotopic Purity	>95%	>99.9%

Additional Information:

Normalized Intensity: ¹³C₀ = 0.00%, ¹³C₁ = 0.00%, ¹³C₂ = 0.00%, ¹³C₃ = 100.00%

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of ± 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

Henry Tieu

Reviewed By

Toni Rantanen

C of A Approved By

Chanell Chu

Test Date

5/26/2023

Retest Date

5/24/2027