

## **CERTIFICATE OF ANALYSIS**

New \_CofAS Print

## 1. Identification

Catalogue Number Lot Number F371502

17-MRS-187-2

**Product Name** 

Flavine Adenine Dinucleotide-<sup>13</sup>C<sub>5</sub> Ammonium Salt (>90%)

Synonyms

**CAS Number** 

N/A

Riboflavin 5'-(Trihydrogen Diphosphate) P'5'-Ester with Adenosine-13C<sub>5</sub> Ammonium Salt; Adenineflavine Dinucleotide-13C<sub>5</sub> Disodium; Adenine-riboflavin-13C<sub>5</sub> Dinucleotide Ammonium Salt; Adenineriboflavine- $^{13}C_5$  Dinucleotide Ammonium Salt; FAD- $^{13}C_5$  Ammonium Salt; Fademin- $^{13}C_5$  Ammonium

Solubility

Water (Slightly)

**Shipping Condition** 

-20°C, Hygroscopic

HO-CH HO-CH

**Long Term Storage Conditions** 

This Product Is Stable To Be Shipped At Room

Temperature

**Structure** 

Molecular Formula Source of Product

 $C_{22}^{13}C_5H_{33}N_9O_{15}P_2 \bullet xNH_3$ Synthetic

Molecular Weight Purity Calibri Courier Arial MT

790.51 + x(17.03)>90%  $C_{22}^{13}C_5H_{33}N_9$ C2213C5H23N0  $C_{22}^{13}C_5H_{33}$ 

 $C_{22}^{13}C_5H_{33}N_9$ 

 $C\square\square$  1 3  $C\square$ H 

Arial

· xNH<sub>2</sub>

2. Warnings Hygroscopic

3. Analytical Information

<u>l ests</u>	<u>Specifications</u>	<u>Results</u>
Appearance	Yellow to Dark Yellow Solid	Yellow to Dark Yellow Solid
NMR	Conforms to Structure	Conforms
C NMR	Conforms to Structure	Conforms
PNMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 37.77, %H: 5.15, %N: 17.37
HPLC Purity	Report Result	90.08% (265 nm)
MS	Conforms to Structure	Conforms
Isotopic Purity	>95%	98.6%
Water Content	Report Result	~6.3% based on Elemental Analysis
Ammonium Content	Report Result	2.81% by Ion Chromatography
Specific Rotation	Report Result	-42.0° (c = 0.1, Water)

## Additional Information

Normalized Intensity:  $d_0 = 0.08\%$ ,  $d_1 = 0.33\%$ ,  $d_2 = 0.21\%$ ,  $d_3 = 0.24\%$ ,  $d_4 = 4.08\%$ ,  $d_5 = 95.06\%$ 

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 Reviewed by C of A Approved by **Test Date Retest Date** Plan 4/4/2022 4/2/2026 Henry Tieu Toni Rantanen Chanell Chu Product Quality Specialist Manager, Quality Assurance Jr. Quality Assurance

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