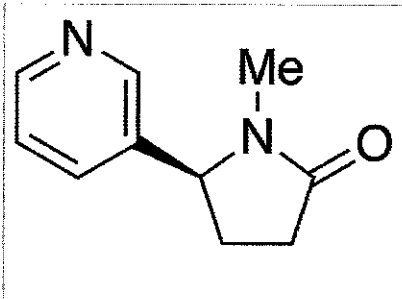


02.16 p02.30

## CERTIFICATE OF ANALYSIS

## 1. Identification

<b>Catalogue Number:</b>	C725000	<b>CAS Number:</b>	486-56-6
<b>Product:</b>	S-(-)-Cotinine	<b>Synonym:</b>	(5S)-1-Methyl-5-(3-pyridinyl)-2-pyrrolidinone; (S)-(-)-1-Methyl-5-(3-pyridinyl)-2-pyrrolidinone; (-)-Cotinine; (S)-Cotinine; NIH 10498;
<b>Structure:</b>		<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>12</sub> N <sub>2</sub> O
		<b>Molecular weight:</b>	176.22
		<b>Source of Product:</b>	N/A
		<b>Solubility:</b>	Chloroform (Slightly), Methanol (Slightly)
<b>Lot Number:</b>	1-FAX-38-1	<b>Purity:</b>	98%
<b>Shipping Condition:</b>	This Product Is Stable To Be Shipped At Room Temperature	<b>Storage Condition:</b>	Hygroscopic, Refrigerator, under inert atmosphere

## 2. Warning

Warning 1: Hygroscopic

Warning 2:

Warning 3:

## 3. Analytical Information

Tests:	Specifications:	Results:
Appearance	Colourless to Very Dark Orange Oil to Solid	Light Beige to Light Brown Solid
NMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 67.80, %H: 6.75, %N: 15.89
MS	Conforms to Structure	Conforms
Specific Rotation	Report Result	-20.6 (c = 0.5, Methanol)
HPLC Purity	>95%	99.90% (260 nm)

## Additional Information:

TLC Conditions: SiO<sub>2</sub>; Dichloromethane : Methanol = 9 : 1; Visualized with UV and KMnO<sub>4</sub>;  
Single Spot, R<sub>f</sub> = 0.50. Elemental Analysis: (Theoretical) %C: 68.16, %H: 6.86, %N: 15.90

Purity is based on the analytical results of the tests performed. NMR and TLC may have an accuracy +-2%. Isotopic purity is based on mass distribution observed.

## 4. Signatures

Reviewed By	Reviewed By	C of A Approved By	Test Date	Retest Date
Philip Chan	Eric Beaton	Clarissa Santos	1/25/2019	1/23/2023
