

# Chem-Impex International, Inc.

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## Certificate of Analysis

<b>Catalogue Number</b>	32494
<b>Lot Number</b>	003056-469103006066
<b>Product</b>	<b>(-)-Nicotine</b>  (-)-1-Methyl-2-(3-pyridyl)pyrrolidine
<b>CAS Number</b>	54-11-5
<b>Molecular Formula</b>	C <sub>10</sub> H <sub>14</sub> N <sub>2</sub>
<b>Molecular Weight</b>	162.23
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<b>Appearance</b>	Colorless viscous volatile liquid
<b>Water Content (Karl Fisher)</b>	0.07%
<b>Optical Rotation</b>	[α] <sup>25</sup> <sub>D</sub> = -137.1 °
<b>Infrared Spectrum</b>	Conforms to structure
<b>Related Substances</b>	Nicotine related compound A, B, C, E, G : < 0.05% each Nicotine related compound D : 0.13% Nicotine related compound F : 0.14% Any other unspecified impurity : < 0.05% Total impurity : 0.27%
<b>Assay by titration</b>	99.7% (Potentiometry)
<b>Grade</b>	USP
<b>Storage</b>	Store at RT
<b>Additional Information</b>	Identification B : Passes test Tobacco Specific Nitrosamines (TSNAs) : 1) NNN [(2S)-N'-Nitrosornicotine] : < 0.5 ppm 2) NNK [4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone] : < 0.5 ppm

# *Certificate of Analysis*

Catalog Number: 32494

Lot Number: 003056-469103006066

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**Remarks**

See material safety data sheet for additional information

For laboratory use only

**The foregoing is a copy of the Certificate of Analysis as provided by our supplier**



**Bala Kumar**  
**Quality Control Manager**