Chem-Impex International, Inc.

Tel: (630) 766-2112 E-mail: sales@chemimpex.com Shipping and Correspondence: 935 Dillon Drive Wood Dale, IL 60191 Fax: (630) 766-2218 Web site: www.chemimpex.com Manufacturing site: 825 Dillon Drive Wood Dale, IL 60191

Certificate of Analysis

Catalogue Number	32539
Product	(-)-Tetrahydropalmatine
Lot Number	003167-20092501
	L-Tetrahydropalmatine
CAS Number	483-14-7
Molecular Formula	C ₂₁ H ₂₅ NO ₄
Molecular Weight	355.43
Appearance	Light yellow green to white crystal
Clarity & Color	Between 0.5 - 1.0, light than No. 4
Odor	Odorless
Melting Point	141 - 143 °C
Heavy Metals	< 10 ppm
Cation	Lead (Pb) : < 1 ppm Arsenic (As) : < 2 ppm, Mercury (Hg) : < 0.1 ppm Cadmium (Cd) : < 1 ppm
Yeast and Mold	< 10 cfu/g
Optical Rotation	$[a]_{D}^{20} = -296$ °
Infrared Spectrum	Conforms to structure
Loss on Drying	3.79% (100 °C, 2.5 h)
E. Coli	Absent/g
Microbial Count	< 100 cfu/g
Salmonella	Absent/g
Related Substances	Related impurities : < 0.5%
Residue On Ignition	0.06%
Purity by HPLC	98.61% (On dry basis)
Storage	Store at 2 - 8 °C
Additional Information	Absorbility : 154 Other alkaloid : Color of the pick should not darker than that of the reference solution

Certificate of Analysis

Catalog Number: 32539

Lot Number: 003167-20092501

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

likumer.

Bala Kumar Quality Control Manager