

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-09-09 14:10:12
 Date of Next Testing: 2027-09-08 14:10:12
 Product Name: **Methotrexate hydrate**
 CAS Number: 133073-73-1
 Specifications & Purity: $\geq 99\%$
 Lot #: I2307031
 SKU #: **M111239**
 Version: **0**
 Analysis #: **063511**
 Storage Temperature: Store at -20°C , Argon charged

Parameter	Limit Values	Result
Ignition Residue(Ash)	0-0.1 (%)	0.05400 %
Water by Karl Fischer	≤ 12 (%)	0.22710 %
Purity(HPLC)	99-100 (%)	99.87600 %
Specific Rotation $[\alpha]_{20/D}(c=10\text{mg/ml in } 0.05\text{M NaOH})$	19-24 ($^{\circ}$)	19.03000 $^{\circ}$
Appearance (M111239)	Yellow to Yellow-Orange Powder	Yellow to Yellow-Orange Powder
Solubility in 1 M NH_4OH , Yellow to Orange Clear(50 mg + 1 ml)	pass	Pass
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager