

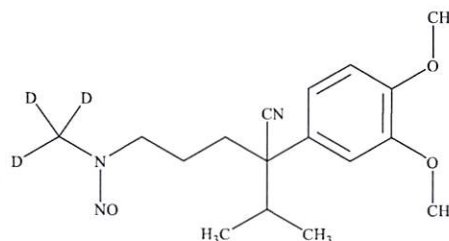
Certificate of Analysis

Certificate No.: 20260612021



Date: June 12, 2026

Retest date: June 10, 2029

Compound Name: <i>N</i> -Nitroso Verapamil EP Impurity F-d ₃ (<i>N</i> -Nitroso Verapamil USP Related Compound A-d ₃ (Free Form))	
Synonyms:	<i>N</i> -(4-cyano-4-(3,4-dimethoxyphenyl)-5-methylhexyl)- <i>N</i> -(methyl-d ₃) nitrous amide
TLC Catalogue Number:	V-0441
CAS Number:	N/A
Alternate CAS Number:	N/A
Molecular Weight:	322.42
Molecular Formula:	C ₁₇ H ₂₂ D ₃ N ₃ O ₃
Source:	TLC Pharmaceutical Standards
Source Lot No.:	7496-006A1
Storage Conditions:	Store at 2-8 °C
Solubility:	Methanol, DMSO, DMF, Acetonitrile



Test Description	Specifications	Results
Visual Description	Pale yellow solid	Conforms
Identification		
MS	Conforms to structure	Conforms
¹ H NMR	Conforms to structure	Conforms
Purity (HPLC)	Not less than 95.0%	99.9%
Impurity (HPLC)	N/A	
Isotopic Enrichment	Not less than 98.0%	99.8%
Water Content (KF)	N/A	0.4%
Residual Solvents (NMR)	0.7% methanol	
Assay (%)	Not less than 90.0%	98.8%
Recommendation:	Release. The compound is an <i>N</i> -Nitroso product. Avoid using metal spatula and applying pressure. Wear proper personal protective equipment when handling.	

Name	Department	Signature	Date
Reviewed and approved by:	Quality Control		06/12/2026
Approved by:	Quality Assurance		06/12/2026

Attachments: Peak Attribution Table, Assay Calculation, HPLC, MS and NMR spectra.