

501510 M2523

Certificate of Analysis

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Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	A452	Quality Test / Release Date	06/21/2024	
Lot Number	240572	-		
Description	METHANOL, HPLC GRADE, A.C.S.			
Country of Origin	United States	Suggested Retest Date	Jun/2029	
Chemical Origin	Organic - synthetic			
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.			

N/A				
Result Name	Units	Specifications	Test Value	
APPEARANCE		REPORT	Clear, colorless liquid	
ASSAY	%	>= 99.9	100.0	
CARBONYL COMPOUNDS	%	<= 0.001	<0.001	
COLOR	APHA	<= 5	<5	
EVAPORATION RESIDUE	ppm	<= 3	0	
FLUORESCENCE BACKGROUND	PASS/FAIL	= PASS TEST	PASS TEST	
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST	
LC GRADIENT SUITABILITY	PASS/FAIL	= PASS TEST	PASS TEST	
OPTICAL ABS AT 205 NM	ABSORBANCE UNITS	<= 1.00	0.74	
OPTICAL ABS AT 220 NM	ABSORBANCE UNITS	<= 0.30	0.17	
OPTICAL ABS AT 230 NM	ABSORBANCE UNITS	<= 0.15	0.08	
OPTICAL ABS AT 254 NM	ABSORBANCE UNITS	<= 0.025	0.009	
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.3260 - 1.3300	1.3264	
SOLUBILITY IN WATER	PASS/FAIL	= PASS TEST	PASS TEST	
SUBSTANCES DARKENED BY H2SO4	PASS/FAIL	= PASS TEST	PASS TEST	
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST	
TITRATABLE ACID	MEQ/G	<= 0.0003	0.0003	
TITRATABLE BASE	MEQ/G	<= 0.0002	0.0000	
WATER (H2O)	%	<= 0.1	0.0	

Kulyan Varuchin

Kalyan Paruchuri - Quality Control Supervisor - Bridgewater

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above. If there are any questions with this certificate, please call at (800) 227-6701.

^{*}Based on suggested storage condition.