Fisher Scientific L.L.C. US
1 Reagent Lane
Fair Lawn,
NJ 07410, United States of America

CERTIFICATE OF ANALYSIS

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

Catalogue Number	A456
Lot Number	260630
Description	METHANOL, OPTIMA-LCMS GRADE
CAS Number	67-56-1
Quality Test/Release Date	11/Jun/2026
Suggested retest date	10/Jun/2031
Country of Origin	United States
Declaration of Origin	Organic - synthetic
BSE/TSE	No materials derived from animals or humans were used to make or process this chemical, and the equipment used to process this chemical is not used to process any material derived from animals or humans.

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear, colorless liquid
ASSAY	%	>= 99.9	>99.9
COLOR	APHA	<= 10	<5
EVAPORATION RESIDUE	ppm	<= 1	<1
IDENTIFICATION	PASS/FAIL	IN PASS TEST	PASS TEST
IONIC IMPURITY - ALUMINUM (Al)	ppb	<= 10	<1
IONIC IMPURITY - BARIUM (Ba)	ppb	<= 10	<1
IONIC IMPURITY - CADMIUM (Cd)	ppb	<= 10	<1
IONIC IMPURITY - CALCIUM (Ca)	ppb	<= 50	<1
IONIC IMPURITY - CHROMIUM (Cr)	ppb	<= 10	<1
IONIC IMPURITY - COBALT (Co)	ppb	<= 10	<1
IONIC IMPURITY - COPPER (Cu)	ppb	<= 10	<1
IONIC IMPURITY - IRON (Fe)	ppb	<= 10	<1
IONIC IMPURITY - LEAD (Pb)	ppb	<= 10	<1
IONIC IMPURITY - MAGNESIUM (Mg)	ppb	<= 10	<1
IONIC IMPURITY - MANGANESE (Mn)	ppb	<= 10	<1
IONIC IMPURITY - NICKEL (Ni)	ppb	<= 10	<1
IONIC IMPURITY - POTASSIUM (K)	ppb	<= 10	1
IONIC IMPURITY - SILVER (Ag)	ppb	<= 10	<1
IONIC IMPURITY - SODIUM (Na)	ppb	<= 50	2
IONIC IMPURITY - TIN (Sn)	ppb	<= 10	<1
IONIC IMPURITY - ZINC (Zn)	ppb	<= 10	<1
LC GRADIENT TEST WITH PDA (200-400 NM)	mAU	<= 2	<2
LCMS SUITABILITY - POS. MODE (AS PROPAZINE)	ppb	<= 100	<100
LCMS SUITABILITY-NEG.MODE (AS CHLORAMPHENICOL)	ppb	<= 200	<200
OPTICAL ABS AT 210 NM	ABS. UNITS	<= 0.5	0.4
OPTICAL ABS AT 214 NM	ABS. UNITS	<= 0.4	0.3
OPTICAL ABS AT 220 NM	ABS. UNITS	<= 0.2	0.2
OPTICAL ABS AT 230 NM	ABS. UNITS	<= 0.1	0.1
OPTICAL ABS AT 254 NM	ABS. UNITS	<= 0.01	<0.01

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.

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OPTICAL ABS AT 260 NM	ABS. UNITS	<= 0.005	<0.001
OPTICAL ABS AT 280 NM	ABS. UNITS	<= 0.005	<0.001
TITRATABLE ACID	MEQ/G	<= 0.0003	0.0003
TITRATABLE BASE	MEQ/G	<= 0.0002	0.0001
WATER (H2O)	%	<= 0.02	0.01

Additional Information HPLC/UHPLC-UV Gradient Suitability: Peak Height with PDA (200-400 nm) <= 2 mAU

Harout Sahagian
QC Manager

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