

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	A116
Lot Number	261381
Description	TRIFLUOROACETIC ACID (TFA), OPTIMA LCMS GRADE
CAS Number	76-05-1
Quality Test/Release Date	11/May/2026
Suggested retest date	31/Aug/2028
Country of Origin	United States
Declaration of Origin	Synthetic

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear, colorless fuming liquid
ASSAY	%	>= 99.5	99.9
COLOR	APHA	<= 10	<10
EVAPORATION RESIDUE	ppm	<= 1	<1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IONIC IMPURITY - ALUMINUM (Al)	ppb	<= 20	2
IONIC IMPURITY - CALCIUM (Ca)	ppb	<= 50	<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	<= 20	<5
IONIC IMPURITY - SILVER (Ag)	ppb	<= 10	<1
IONIC IMPURITY - SODIUM (Na)	ppb	<= 50	5
IONIC IMPURITY - ZINC (Zn)	ppb	<= 20	<1
LC-MS GRADIENT SUITABILITY	PASS/FAIL	= PASS TEST	PASS TEST
LC-UV GRADIENT SUITABILITY	PASS/FAIL	= PASS TEST	PASS TEST
LCMS SUITABILITY - POS. MODE (AS PROPAZINE)	ppb	<= 50	<50
OPTICAL ABS AT 210 NM AT 0.1%	ABS. UNITS	<= 0.55	0.48
OPTICAL ABS AT 220 NM AT 0.1%	ABS. UNITS	<= 0.18	0.17
OPTICAL ABS AT 230 NM AT 0.1%	ABS. UNITS	<= 0.06	0.06
OPTICAL ABS AT 254 NM AT 0.1%	ABS. UNITS	<= 0.003	<0.001
OPTICAL ABS AT 275 NM	ABS. UNITS	<= 0.10	0.1
OPTICAL ABS AT 300 NM	ABS. UNITS	<= 0.06	0.05
WATER (H2O)	%	<= 0.05	0.02

Additional Information Metals tested as 0.1 % (wt/wt) solution in 2 % Nitric acid; LC-UV Gradient Suitability and LC-MS is tested at a 0.1 % aqueous solution; Protease is tested as a 0.1 % solution in water.

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.



Ash Frey
Supervisor, Quality Control

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research use or further manufacturing. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

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.