

## 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 – 0120632

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	T324	Quality Test / Release Date	08/31/2020
Lot Number	203916		
Description	TOLUENE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2025
Chemical Origin	Organic - non animal		
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	%	>= 99.5	99.9
COLOR	APHA	<= 10	5
COPPER (Cu)	ppm	<= 0.1	<0.01
EVAPORATION RESIDUE	%	<= 0.001	<0.0001
HEAVY METALS (as Pb)	ppm	<= 0.1	<0.1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 0.1	<0.01
NICKEL (Ni)	ppm	<= 0.1	<0.01
SUBSTANCES DARKENED BY H2SO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFUR COMPOUNDS	%	<= 0.003	<0.003
WATER (H2O)	%	<= 0.03	0.009



Julian Burton - Quality Control Manager - 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.