

Certificate of Analysis

1 Reagent Lane	
Fair Lawn, NJ 07410	
201.796.7100 tel	Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System
201.796.1329 fax	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	D133	Quality Test / Release Date	05/24/2022	
Lot Number	220650			
Description	N,N-DIMETHYLFORMAMIDE, GC HEADSPACE			
Country of Origin	United States	Suggested Retest Date	Mar/2027	
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 BY GC	%	>= 99.9	>99.99		
COLOR	APHA	<= 15	<15		
GC-HS CLASS 1 SOLVENT	PARTS PER MILLION	<= 1.0	<1		
GC-HS CLASS 2 SOLVENT	PARTS PER MILLION	<= 10	<10		
GC-HS CLASS 3 SOLVENT	PARTS PER MILLION	<= 50	<50		
GC-HS SUITABILITY TEST (PASS/FAIL)	PASS/FAIL	= PASS TEST	PASS TEST		
IDENTIFICATION		= PASS TEST	PASS TEST		
OPTICAL ABS AT 275 NM	AU	<= 0.300	0.196		
OPTICAL ABS AT 300 NM	AU	<= 0.050	0.040		
OPTICAL ABS AT 350 NM	AU	<= 0.005	<0.000		
OPTICAL ABS AT 400 NM	AU	<= 0.005	<0.000		
RESIDUE	PARTS PER MILLION	<= 5	<5		
WATER (H2O)	%	<= 0.03	0.005		

Ira Marootian - 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.

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*Based on suggested storage condition.