

## 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	BP1160	Quality Test / Release Date	08/06/2020	
Lot Number	204631			
Description	N,N-DIMETHYLFORMAMIDE, SEQUA - SYNTHESIS GRADE			
Country of Origin	Saudi Arabia	Suggested Retest Date	Aug/2025	
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	
AMINES	ppm	<= 5	1.2	
ASSAY	%	>= 99.5	99.9	
BOILING POINT	DEGREES CELSIUS	Inclusive Between 152.0 - 154.0	153.5	
BOILING POINT (INITIAL)	DEGREES CELSIUS	Inclusive Between 152.0 - 154.0	153.2	
BOILING RANGE	DEGREES CELSIUS	<= 2.0	0.3	
BOILING RANGE (DRY POINT)	DEGREES CELSIUS	Inclusive Between 152.0 - 154.0	153.5	
COLOR	APHA	<= 15	<5	
DENSITY AT 25 DEGREES C	GM/ML	Inclusive Between 0.942 - 0.946	0.944	
EVAPORATION RESIDUE	%	<= 0.005	<0.0005	
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST	
OPTICAL ABSORBANCE	PASS/FAIL	= PASS TEST	PASS TEST	
TITRATABLE ACID	MEQ/G	<= 0.0005	0.0003	
TITRATABLE BASE	MEQ/G	<= 0.003	<0.0003	
WATER (H2O)	%	<= 0.03	0.01	

Julian Burton

Julian Burton - Quality Control Manager - Bridgewater