

## Certificate of Analysis

1 Reagent Lane  
 Fair Lawn, NJ 07410  
 201.796.7100 tel  
 201.796.1329 fax

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

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	J13410	Quality Test / Release Date	07/17/2023
Lot Number	233329		
Description	CHOLINE CHLORIDE		
Country of Origin	United States	Suggested Retest Date	Jun/2025

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	White crystalline powder
1,4 DIOXANE	PASS/FAIL	= PASS TEST	PASS TEST
ASSAY (DRY BASIS)	%	>= 98.0	99.9
HEAVY METALS	ppm	<= 10	<10
IDENTIFICATION, I.R.	Matches Reference	= MATCHES REFERENCE	MATCHES REFERENCE
IGNITION RESIDUE	%	<= 0.05	<0.05
MOISTURE	%	<= 0.5	0.2



Harout Sahagian - Quality Control Supervisor - Fair Lawn

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.