

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	14050	Quality Test / Release Date	05/19/2022
Lot Number	B0152897A		
Description	TRIS HYDROXYMETHYL AMINOMETHANE		
Country of Origin	China	Suggested Retest Date	Feb/2024
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	White Crystals
ASSAY	%	>= 99.0	99.9
COLOR OF SOLUTION	APHA	<= 20	<20
HEAVY METALS (as Pb)	ppm	<= 5	<5
IDENTIFICATION	PASS/FAIL	IN PASS TEST	PASS TEST
INFRARED SCAN	CONFORMS	IN CONFORMS TO REF	CONFORMS TO REF
MELTING POINT	DEGREES CELSIUS	Inclusive Between 168 - 171	170.2
OPTICAL ABS AT 290 NM	ABSORBANCE UNITS	<= 0.2	<0.2
PH AT 25 DEGREES C		Inclusive Between 10.0 - 11.5	10.4
RESIDUE AFTER IGNITION	%	<= 0.1	<0.1
WATER (H2O)	%	<= 0.5	<0.5



Ira Marootian - Quality Control Manager - 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.