

## CERTIFICATE OF ANALYSIS

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

Catalogue Number	A481
Lot Number	255152
Description	HYDROCHLORIC ACID, NF/FCC
CAS Number	7647-01-0
Quality Test/Release Date	22/Jan/2026
Suggested retest date	21/Jan/2029
Country of Origin	United States
Declaration of Origin	Inorganic
BSE/TSE	Hydrochloric Acid is manufactured from raw materials that contain no animal parts, products, or by-products, nor do they come into contact with any animal parts, products, or by-products during processing.

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear, colorless liquid
FCC Grade - ASSAY	%	Inclusive Between 35.4 - 38.4	37.6
FCC Grade - BAUME DEGREES	PASS/FAIL	= PASS TEST	PASS TEST
FCC Grade - BENZENE	MG/KG	<= 0.05	<0.001
FCC Grade - COLOR	PASS/FAIL	= PASS TEST	PASS TEST
FCC Grade - FLUORINATED ORGANIC COMPOUNDS	%	<= 0.0025	<0.0000001
FCC Grade - IDENTIFICATION (ALL LISTED)	PASS/FAIL	= PASS TEST	PASS TEST
FCC Grade - IRON (Fe)	MG/KG	<= 5	<0.01
FCC Grade - LEAD (Pb)	MG/KG	<= 1	<0.01
FCC Grade - MERCURY (Hg)	MG/KG	<= 0.10	<0.001
FCC Grade - NON-VOLATILE RESIDUE	%	<= 0.5	<0.00001
FCC Grade - OXIDIZING SUBSTANCES (AS CL2)	%	<= 0.003	<0.00001
FCC Grade - REDUCING SUBSTANCES AS SO3	%	<= 0.007	<0.00001
FCC Grade - SPECIFIC GRAVITY @ 15.6 C	PASS/FAIL	= PASS TEST	PASS TEST
FCC Grade - SULFATE	%	<= 0.5	<0.00001
FCC Grade - TOTAL ORGANIC COMPOUNDS (NON-F)	MG/KG	<= 5	<0.001
NF Grade - ASSAY	%	Inclusive Between 36.5 - 38.0	37.6
NF Grade - BROMIDE OR IODIDE	PASS/FAIL	= PASS TEST	PASS TEST
NF Grade - FREE BROMINE OR CHLORINE	PASS/FAIL	= PASS TEST	PASS TEST
NF Grade - HEAVY METALS (as Pb)	ppm	<= 5	<0.001
NF Grade - IDENTIFICATION (ALL LISTED)	PASS/FAIL	= PASS TEST	PASS TEST
NF Grade - NF PROTOCOL REQUIRED	PASS/FAIL	= PASS TEST	PASS TEST
NF Grade - RESIDUAL SOLVENTS	Meets Requirements	= MEETS REQUIREMENTS	MEETS REQUIREMENTS
NF Grade - RESIDUE ON IGNITION	%	<= 0.008	<0.008
NF Grade - SULFATE (SO4)	PASS/FAIL	= PASS TEST	PASS TEST
NF Grade - SULFITE	PASS/FAIL	= PASS TEST	PASS TEST

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.

Additional Information Hydrochloric Acid does not contain in whole or in part, nor in any of its raw materials, any products from agricultural derivatives such as wheat, oats, rye, barley, soy, canola, corn, or yeast. It does not contain any genetically modified materials, and it is also free of melamine contamination.



Ash Frey  
Supervisor, Quality Control

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research use or further manufacturing. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

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