

## CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by INTERTEK SAI Global  
Certificate Number. QMS42099

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Catalogue Number	12462
Lot Number	2192020
Description	Hydrochloric acid
CAS Number	7647-01-0
Quality Test/Release Date	10/Aug/2021
Expiry Phrase	Use within 5 years of opening
Country of Origin	United Kingdom

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Result Name	Units	Specifications	Test Value
Assay	%	$\geq 35$ and $\leq 39$	35.4
Chemical form		Mobile liquid	Mobile liquid
Colour	APHA	$\leq 10$	$<10$
Free chlorine (ppm)	ppm	$\leq 10$	$<1$
Iron (Fe)	ppm	$\leq 5$	$<0.2$
Lead (Pb)	ppm	$\leq 2$	$<0.02$
Sulfate (SO <sub>4</sub> ) (ppm)	ppm	$\leq 100$	$<5$
Visual colour		Clear colourless	Clear colourless

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*A. Ganatra*

Ashok Ganatra  
Supervisor, QC

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.

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.