

## CERTIFICATE OF ANALYSIS

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

Catalogue Number	H/1111
Lot Number	2526610
Description	Hydrochloric acid MOS
CAS Number	7647-01-0
Quality Test/Release Date	11/Feb/2025
Expiry Phrase	Use within 3 years of packing date
Country of Origin	United Kingdom
Declaration of Origin	Synthetic
BSE/TSE	Not directly derived from or manufactured with any animal byproducts in any way (Including but not limited to fermentation or nutrient broth, catalysts, enzymes).

Result Name	Units	Specifications	Test Value
Aluminium (Al)	ppm	<= 0.5	<0.2
Assay	%	>= 35.5 and <= 37.5	35.75
Barium (Ba)	ppm	<= 0.1	<0.005
Cadmium (Cd)	ppm	<= 0.05	<0.005
Calcium (Ca)	ppm	<= 1	<0.2
Chemical form		Mobile liquid	Mobile liquid
Chromium (Cr)	ppm	<= 0.1	<0.02
Cobalt (Co)	ppm	<= 0.02	<0.005
Colour	APHA	<= 10	<5
Copper (Cu)	ppm	<= 0.1	<0.01
Free chlorine (ppm)	ppm	<= 2	<1
Iron (Fe)	ppm	<= 0.5	<0.2
Lead (Pb)	ppm	<= 0.1	<0.01
Lithium (Li)	ppm	<= 0.02	<0.01
Magnesium (Mg)	ppm	<= 0.5	<0.02
Manganese (Mn)	ppm	<= 0.02	<0.005
Molybdenum (Mo)	ppm	<= 0.02	<0.005
Nickel (Ni)	ppm	<= 0.01	<0.01
Potassium (K)	ppm	<= 0.5	<0.05
Sodium (Na)	ppm	<= 2	<0.1
Strontium (Sr)	ppm	<= 0.02	<0.005
Titanium (Ti)	ppm	<= 0.02	<0.005
Total phosphorus (P)	ppm	<= 1	<0.02
Total silicon (Si)	ppm	<= 0.5	<0.2
Total sulfur (S)	ppm	<= 5	<0.5
Vanadium (V)	ppm	<= 0.02	<0.01
Visual colour		Clear colourless	Clear colourless
Zinc (Zn)	ppm	<= 0.2	<0.05



Ashok Ganatra  
Supervisor, QC

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.

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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