

CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by ICG. Certificate Number. 110212Q

Catalogue Number	044470
Lot Number	62500453
Description	Aluminum chloride, anhydrous, 99.999% (metals basis)
CAS Number	7446-70-0
Quality Test/Release Date	06/Aug/2025
Suggested retest date	06/Aug/2027
Country of Origin	TÜRKIYE
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
Iridium (Ir)	PPM	<0.0000	<0.0000
Osmium (Os)	PPM	<0.0001	<0.0001
Indium (In)	PPM	<0.0002	<0.0002
Bismuth (Bi)	PPM	<0.0003	<0.0003
Silver (Ag)	PPM	<0.0005	<0.0005
Rhodium (Rh)	PPM	<0.0005	<0.0005
Ruthenium (Ru)	PPM	<0.0005	<0.0005
Palladium (Pd)	PPM	<0.0005	<0.0005
Thallium (Tl)	PPM	<0.001	<0.001
Thulium (Tm)	PPM	<0.001	<0.001
Gold (Au)	PPM	<0.001	<0.001
Hafnium (Hf)	PPM	<0.001	<0.001
Holmium (Ho)	PPM	<0.001	<0.001
Ytterbium (Yb)	PPM	<0.001	<0.001
Europium (Eu)	PPM	<0.001	<0.001
Tantalum (Ta)	PPM	<0.001	<0.001
Cobalt (Co)	PPM	<0.002	<0.002
Tungsten (W)	PPM	<0.003	<0.003
Beryllium (Be)	PPM	<0.005	<0.005
Zirconium (Zr)	PPM	<0.005	<0.005
Tin (Sn)	PPM	<0.008	<0.008
Gadolinium (Gd)	PPM	<0.01	<0.01
Chromium (Cr)	PPM	<0.01	<0.01
Platinum (Pt)	PPM	<0.01	<0.01
Samarium (Sm)	PPM	<0.01	<0.01
Terbium (Tb)	PPM	<0.02	<0.02
Cerium (Ce)	PPM	<0.02	<0.02
Thorium (Th)	PPM	<0.02	<0.02
Cesium (Cs)	PPM	<0.02	<0.02
Barium (Ba)	PPM	<0.02	<0.02
Dysprosium (Dy)	PPM	<0.02	<0.02

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.

Yttrium (Y)	PPM	<0.02	<0.02
Neodymium (Nd)	PPM	<0.02	<0.02
Strontium (Sr)	PPM	<0.02	<0.02
Rubidium (Rb)	PPM	<0.02	<0.02
Cadmium (Cd)	PPM	<0.03	<0.03
Arsenic (As)	PPM	<0.03	<0.03
Copper (Cu)	PPM	<0.03	<0.03
Tellurium (Te)	PPM	<0.05	<0.05
Scandium (Sc)	PPM	<0.05	<0.05
Mercury (Hg)	PPM	<0.06	<0.06
Lithium (Li)	PPM	<0.1	<0.1
Gallium (Ga)	PPM	<0.1	<0.1
Boron (B)	PPM	<0.1	<0.1
Selenium (Se)	PPM	<0.2	<0.2
Calcium (Ca)	PPM	<2	<2
Silicon (Si)	PPM	<2	<2
Iron (Fe)	PPM	<5	<5
Aluminium (Al)	PPM	MATRIX	MATRIX
Chlorine (Cl)	PPM	MATRIX	MATRIX
Oxygen (O)	PPM	ND	ND
Phosphorus (P)	PPM	ND	ND
Sulfur (S)	PPM	ND	ND
Hydrogen (H)	PPM	ND	ND
Iodine (I)	PPM	ND	ND
Bromine (Br)	PPM	ND	ND
Carbon (C)	PPM	ND	ND
Flourine (F)	PPM	ND	ND
Rhenium (Re)	PPM	0.0005	0.0005
Lutetium (Lu)	PPM	0.002	0.002
Erbium (Er)	PPM	0.003	0.003
Titanium (Ti)	PPM	0.005	0.005
Praseodymium (Pr)	PPM	0.006	0.006
Nickel (Ni)	PPM	0.006	0.006
Antimony (Sb)	PPM	0.01	0.01
Lanthanum (La)	PPM	0.02	0.02
Uranium (U)	PPM	0.02	0.02
Molybdenum (Mo)	PPM	0.02	0.02
Niobium (Nb)	PPM	0.02	0.02
Lead (Pb)	PPM	0.03	0.03
Manganese (Mn)	PPM	0.03	0.03
Vanadium (V)	PPM	0.07	0.07
Germanium (Ge)	PPM	0.1	0.1
Zinc (Zn)	PPM	0.2	0.2
Sodium (Na)	PPM	0.4	0.4
Magnesium (Mg)	PPM	0.6	0.6
Potassium (K)	PPM	0.8	0.8
Residual water	ppm	< 2000 ppm	< 1000
Total Metal Impurities	%	≤0.001% (10 ppm)	< 0.001

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Ronald Becht
Technical Support Manager

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