



Material Specifications

Nitric Acid – Ultrapure

Grade - 1

Product Code		N31	
Test Name	Units	Specifications	Test Method
Assay	% w/w	67-70	Acid Base Titration
Color	APHA	<= 10	
Phosphorus - P	ppm	<= 0.01	By ICP-MS
Sulfur - S	ppm	<= 0.3	By ICP-MS
Aluminium - Al	ppb	<= 1	By ICP-MS
Anitmony - Sb	ppb	<= 0.5	By ICP-MS
Arsenic - As	ppb	<= 0.5	By ICP-MS
Barium - Ba	ppb	<= 0.1	By ICP-MS
Beryllium - Be	ppb	<= 0.1	By ICP-MS
Bismuth - Bi	ppb	<= 0.1	By ICP-MS
Boron - B	ppb	<= 5	By ICP-MS
Cadmium - Cd	ppb	<= 0.5	By ICP-MS
Calcium - Ca	ppb	<= 1	By ICP-MS
Cerium - Ce	ppb	<= 0.1	By ICP-MS
Cesium - Cs	ppb	<= 0.1	By ICP-MS
Chromium - Cr	ppb	<= 1	By ICP-MS
Cobalt - Co	ppb	<= 0.5	By ICP-MS
Copper - Cu	ppb	<= 0.5	By ICP-MS
Dysprosium - Dy	ppb	<= 0.1	By ICP-MS
Erbium - Er	ppb	<= 0.1	By ICP-MS
Europium - Eu	ppb	<= 0.1	By ICP-MS
Gadolinium - Gd	ppb	<= 0.1	By ICP-MS
Gallium - Ga	ppb	<= 0.1	By ICP-MS
Germanium - Ge	ppb	<= 0.1	By ICP-MS
Gold - Au	ppb	<= 0.1	By ICP-MS
Hafnium - Hf	ppb	<= 0.1	By ICP-MS
Holmium - Ho	ppb	<= 0.1	By ICP-MS
Indium - In	ppb	<= 0.1	By ICP-MS
Iron - Fe	ppb	<= 1	By ICP-MS
Iridium - Ir	ppb	<= 1	By ICP-MS
Lanthanum - La	ppb	<= 0.1	By ICP-MS
Lead - Pb	ppb	<= 1	By ICP-MS



Test Name	Units	Specifications	Test Method
Lithium - Li	ppb	≤ 1	By ICP-MS
Lutetium - Lu	ppb	≤ 0.1	By ICP-MS
Magnesium - Mg	ppb	≤ 1	By ICP-MS
Manganese - Mn	ppb	≤ 1	By ICP-MS
Mercury - Hg	ppb	≤ 0.1	By ICP-MS
Molybdenum - Mo	ppb	≤ 0.1	By ICP-MS
Neodymium - Nd	ppb	≤ 0.1	By ICP-MS
Nickel - Ni	ppb	≤ 0.5	By ICP-MS
Niobium - Nb	ppb	≤ 0.1	By ICP-MS
Osmium - Os	ppb	≤ 1	By ICP-MS
Palladium - Pd	ppb	≤ 0.5	By ICP-MS
Platinum - Pt	ppb	≤ 0.5	By ICP-MS
Potassium - K	ppb	≤ 1	By ICP-MS
Praseodymium - Pr	ppb	≤ 0.1	By ICP-MS
Rhenium - Re	ppb	≤ 0.1	By ICP-MS
Rhodium - Rh	ppb	≤ 0.5	By ICP-MS
Rubidium - Rb	ppb	≤ 0.1	By ICP-MS
Ruthenium - Ru	ppb	≤ 0.5	By ICP-MS
Samarium - Sm	ppb	≤ 0.1	By ICP-MS
Scandium - Sc	ppb	≤ 0.1	By ICP-MS
Selenium - Se	ppb	≤ 1	By ICP-MS
Silver - Ag	ppb	≤ 0.1	By ICP-MS
Silicon - Si	ppb	≤ 1	By ICP-MS
Sodium - Na	ppb	≤ 1	By ICP-MS
Strontium - Sr	ppb	≤ 1	By ICP-MS
Tantalum - Ta	ppb	≤ 0.1	By ICP-MS
Tellurium - Te	ppb	≤ 0.1	By ICP-MS
Terbium - Tb	ppb	≤ 0.1	By ICP-MS
Thallium - Tl	ppb	≤ 0.1	By ICP-MS
Thorium - Th	ppb	≤ 0.1	By ICP-MS
Thulium - Tm	ppb	≤ 0.1	By ICP-MS
Tin - Sn	ppb	≤ 0.5	By ICP-MS
Titanium - Ti	ppb	≤ 0.5	By ICP-MS
Tungsten - W	ppb	≤ 0.1	By ICP-MS
Uranium - U	ppb	≤ 0.1	By ICP-MS
Vanadium - V	ppb	≤ 0.5	By ICP-MS
Ytterbium - Yb	ppb	≤ 0.1	By ICP-MS
Yttrium - Y	ppb	≤ 0.1	By ICP-MS
Zinc - Zn	ppb	≤ 1	By ICP-MS
Zirconium - Zr	ppb	≤ 0.5	By ICP-MS



Product Integrity Guidelines

- Recommended Storage Temp – 15 – 25° C.
- Avoid exposure to Sunlight & UV Light Source.
- Open in Class 100 or ISO Class 5 Cleanroom or better environment conditions.
- Once opened, Product integrity depends on chemist handling the product.

Approved by

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