

**Material Number:** 87003-259 0500mL HDPE | 87003-261 2500mL HDPE  
**Material Description:** Nitric acid  
**Grade:** BDH Aristar® Plus  
**Lot Number:** 1122090  
**Use By:** 2024-Sep-13  
**Date of Certification:** 2022-Sep-13  
**CAS Number:** 7697-37-2  
**Molecular Weight:** 63.01  
**Molecular Formula:** HNO<sub>3</sub>

Characteristics	Specifications	Measured Values
Assay (HNO <sub>3</sub> )	67 - 70% w/w	69% w/w
Color	max. 10 APHA	< 7 APHA
Aluminum (Al)	max. 1 ppb	< 0.5 ppb
Antimony (Sb)	max. 0.5 ppb	< 0.1 ppb
Arsenic (As)	max. 0.5 ppb	< 0.1 ppb
Barium (Ba)	max. 0.1 ppb	< 0.1 ppb
Beryllium (Be)	max. 0.1 ppb	< 0.1 ppb
Bismuth (Bi)	max. 0.1 ppb	< 0.1 ppb
Boron (B)	max. 1 ppb	< 1 ppb
Cadmium (Cd)	max. 0.5 ppb	< 0.1 ppb
Calcium (Ca)	max. 1 ppb	< 0.5 ppb
Cerium (Ce)	max. 0.1 ppb	< 0.1 ppb
Cesium (Cs)	max. 0.1 ppb	< 0.1 ppb
Chromium (Cr)	max. 1 ppb	< 0.5 ppb
Cobalt (Co)	max. 0.5 ppb	< 0.1 ppb
Copper (Cu)	max. 0.5 ppb	< 0.1 ppb
Dysprosium (Dy)	max. 0.1 ppb	< 0.1 ppb
Erbium (Er)	max. 0.1 ppb	< 0.1 ppb
Europium (Eu)	max. 0.1 ppb	< 0.1 ppb
Gadolinium (Gd)	max. 0.1 ppb	< 0.1 ppb
Gallium (Ga)	max. 0.1 ppb	< 0.1 ppb
Germanium (Ge)	max. 0.1 ppb	< 0.1 ppb
Gold (Au)	max. 0.1 ppb	< 0.1 ppb
Hafnium (Hf)	max. 0.1 ppb	< 0.1 ppb
Holmium (Ho)	max. 0.1 ppb	< 0.1 ppb
Indium (In)	max. 0.1 ppb	< 0.1 ppb
Iron (Fe)	max. 1 ppb	< 0.5 ppb
Lanthanum (La)	max. 0.1 ppb	< 0.1 ppb
Lead (Pb)	max. 0.1 ppb	< 0.1 ppb
Lithium (Li)	max. 0.1 ppb	< 0.1 ppb
Lutetium (Lu)	max. 0.1 ppb	< 0.1 ppb
Magnesium (Mg)	max. 1 ppb	< 0.2 ppb
Manganese (Mn)	max. 0.1 ppb	< 0.1 ppb
Mercury (Hg)	max. 0.1 ppb	< 0.02 ppb
Molybdenum (Mo)	max. 0.1 ppb	< 0.1 ppb
Neodymium (Nd)	max. 0.1 ppb	< 0.1 ppb

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Nickel (Ni)	max. 0.5 ppb	< 0.5 ppb
Niobium (Nb)	max. 0.1 ppb	< 0.1 ppb
Palladium (Pd)	max. 0.5 ppb	< 0.1 ppb
Platinum (Pt)	max. 0.5 ppb	< 0.1 ppb
Potassium (K)	max. 1 ppb	< 0.1 ppb
Praseodymium (Pr)	max. 0.1 ppb	< 0.1 ppb
Rhenium (Re)	max. 0.1 ppb	< 0.1 ppb
Rhodium (Rh)	max. 0.5 ppb	< 0.1 ppb
Rubidium (Rb)	max. 0.1 ppb	< 0.1 ppb
Ruthenium (Ru)	max. 0.5 ppb	< 0.1 ppb
Samarium (Sm)	max. 0.1 ppb	< 0.1 ppb
Scandium (Sc)	max. 0.1 ppb	< 0.1 ppb
Selenium (Se)	max. 1 ppb	< 0.2 ppb
Silver (Ag)	max. 0.1 ppb	< 0.1 ppb
Sodium (Na)	max. 1 ppb	< 0.5 ppb
Strontium (Sr)	max. 0.1 ppb	< 0.1 ppb
Tantalum (Ta)	Information Only	< 0.1 ppb
Tellurium (Te)	max. 0.1 ppb	< 0.1 ppb
Terbium (Tb)	max. 0.1 ppb	< 0.1 ppb
Thallium (Tl)	max. 0.1 ppb	< 0.1 ppb
Thorium (Th)	max. 0.1 ppb	< 0.1 ppb
Thulium (Tm)	max. 0.1 ppb	< 0.1 ppb
Tin (Sn)	max. 0.5 ppb	< 0.1 ppb
Titanium (Ti)	max. 0.5 ppb	< 0.1 ppb
Tungsten (W)	max. 0.1 ppb	< 0.1 ppb
Uranium (U)	max. 0.1 ppb	< 0.1 ppb
Vanadium (V)	max. 0.5 ppb	< 0.1 ppb
Ytterbium (Yb)	max. 0.1 ppb	< 0.1 ppb
Yttrium (Y)	max. 0.1 ppb	< 0.1 ppb
Zinc (Zn)	max. 0.5 ppb	< 0.5 ppb
Zirconium (Zr)	max. 0.1 ppb	< 0.1 ppb
Chloride (Cl)	max. 0.2 ppm	< 0.2 ppm
Total Phosphorus (P)	max. 0.01 ppm	< 0.01 ppm
Total Sulfur (S)	max. 0.3 ppm	< 0.3 ppm

Signed on behalf of VWR:  
*Greg Henson*  
 Quality Assurance Manager