

# Certificate of Analysis

## Antimony ICP Standard, 10,000 ppm Sb in H<sub>2</sub>O/Tartaric Acid/tr HNO<sub>3</sub>

**Lot Number:** 4311G31

**Product Number:** PSB10KW

**Manufacture Date:** NOV 09, 2023

**Expiration Date:** MAY 2025

This is a single element solution that was prepared volumetrically to contain the certified value reported. The uncertainty associated with the certified value is the sum of the estimated errors due to the purity of the raw material, the volumetric preparation of the solution, and transpiration of the solution through the container wall.

The final solution concentration is confirmed by AA, ICP, or ICP-MS, and is traceable to NIST Standard Reference Material 3102. All trace level elements were determined by ICP or ICP-MS.

Name	CAS#	Grade
Water	7732-18-5	
Tartaric Acid	87-69-4	
Antimony	7440-36-0	
Nitric Acid	7697-37-2	
Hydrochloric Acid	7647-01-0	

Test	Specification	Result	NIST SRM#
Antimony (Sb)	9950-10050 ppm	10000 ppm	3102
Appearance	Colorless liquid	Passed	

### Trace Elements by ICP or ICP - MS

I=Spectral Interference N=Not Tested

All values reported in mg/L (ppm)

Aluminum (Al)	< 0.0009 ppm	Iron (Fe)	< 0.001 ppm	Selenium (Se)	< 0.004 ppm
Arsenic (As)	< 0.0007 ppm	Lanthanum (La)	N	Silicon (Si)	I
Barium (Ba)	N	Lead (Pb)	0.0049 ppm	Silver (Ag)	0.1969 ppm
Beryllium (Be)	< 0.0001 ppm	Lithium (Li)	< 0.03 ppm	Sodium (Na)	0.0519 ppm
Bismuth (Bi)	0.0031 ppm	Lutetium (Lu)	< 0.0003 ppm	Strontium (Sr)	0.0017 ppm
Boron (B)	< 0.00005 ppm	Magnesium (Mg)	< 0.0007 ppm	Sulfur (S)	I
Cadmium (Cd)	0.0011 ppm	Manganese (Mn)	< 0.00002 ppm	Tantalum (Ta)	0.7913 ppm
Calcium (Ca)	0.3919 ppm	Mercury (Hg)	< 0.03 ppm	Tellurium (Te)	0.0488 ppm
Cerium (Ce)	0.0310 ppm	Molybdenum (Mo)	0.1270 ppm	Terbium (Tb)	N
Cesium (Cs)	0.0103 ppm	Neodymium (Nd)	0.0007 ppm	Thallium (Tl)	N
Chromium (Cr)	0.5358 ppm	Nickel (Ni)	0.0193 ppm	Thorium (Th)	0.0010 ppm
Cobalt (Co)	< 0.00002 ppm	Niobium (Nb)	0.0216 ppm	Thulium (Tm)	< 0.00002 ppm
Copper (Cu)	N	Osmium (Os)	< 0.003 ppm	Tin (Sn)	0.0080 ppm
Dysprosium (Dy)	0.0022 ppm	Palladium (Pd)	0.2785 ppm	Titanium (Ti)	0.4905 ppm
Erbium (Er)	< 0.00007 ppm	Phosphorus (P)	< 0.02 ppm	Tungsten (W)	0.0403 ppm
Europium (Eu)	0.0001 ppm	Platinum (Pt)	0.0118 ppm	Uranium (U)	0.0001 ppm
Gadolinium (Gd)	< 0.0002 ppm	Potassium (K)	< 0.00002 ppm	Vanadium (V)	< 0.00004 ppm
Gallium (Ga)	< 0.0006 ppm	Praseodymium (Pr)	0.0035 ppm	Ytterbium (Yb)	< 0.001 ppm
Germanium (Ge)	0.0080 ppm	Rhenium (Re)	0.0008 ppm	Yttrium (Y)	0.0001 ppm
Gold (Au)	I	Rhodium (Rh)	0.0004 ppm	Zinc (Zn)	< 0.0003 ppm
Hafnium (Hf)	< 0.001 ppm	Rubidium (Rb)	0.0048 ppm	Zirconium (Zr)	0.0043 ppm
Holmium (Ho)	< 0.0001 ppm	Ruthenium (Ru)	0.0002 ppm		
Indium (In)	0.0009 ppm	Samarium (Sm)	< 0.002 ppm		
Iridium (Ir)	0.0006 ppm	Scandium (Sc)	0.0056 ppm		

Specification	Reference
---------------	-----------

Antimony ICP Standard, 10,000 ppm	EPA (200.7)
-----------------------------------	-------------

This standard is guaranteed to be stable and accurate provided the product is kept tightly capped and stored under normal laboratory conditions. Balances are calibrated using NIST traceable weights whose verification of maintenance and recalibration is documented per in-house Standard Operating Procedures. Class A glassware is also calibrated and routinely rechecked per in-house Standard Operating Procedures. Trace metal analyzed acids and Trace Metals Analyzed Water are used in the manufacture of this product. Triple cleaned containers are used in the manufacture of this product.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
-------------	---------------------	---------------------------------

PSB10KW-100	100 mL natural LDPE	18 months
-------------	---------------------	-----------

**Recommended Storage:** 15°C - 30°C (59°F - 86°F)



Paul Brandon (11/09/2023)

Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.