

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2024-12-31 09:59:44  
 Date of Next Testing: 2027-12-31 09:59:44  
 Product Name: **Hydrofluoric acid 48%**  
 CAS Number: 7664-39-3  
 Specifications & Purity: Ph.Eur., Suitable for Analysis, ACS, Premium pure  
 Lot #: L2427388  
 SKU #: **H485836**  
 Version: **1**  
 Analysis #: **455786**  
 Storage Temperature: Room temperature

| Parameter                                 | Limit Values | Result       |
|-------------------------------------------|--------------|--------------|
| Assay(acidimetric)                        | 48-51 (%)    | 49.01000 %   |
| Chloride (Cl <sup>-</sup> )               | 0-1 (ppm)    | 0.02 ppm     |
| Hexafluorosilicate(SiF <sub>6</sub> )     | 0-50 (ppm)   | 10.00000 ppm |
| Nitrate(NO <sub>3</sub> )                 | 0-5 (ppm)    | 1.00000 ppm  |
| Phosphate(PO <sub>4</sub> )               | 0-0.5 (ppm)  | 0.00 ppm     |
| Sulfate and sulphite(as SO <sub>4</sub> ) | 0-5 (ppm)    | 0.36500 ppm  |
| Heavy metals(as Pb)                       | 0-0.5 (ppm)  | 0.00 ppm     |
| Silver(Ag)                                | 0-0.02 (ppm) | 0.00 ppm     |
| Aluminium(Al)                             | 0-0.05 (ppm) | 0.00000 ppm  |
| Arsenic(As)                               | 0-0.03 (ppm) | 0.00011 ppm  |
| Gold(Au)                                  | 0-0.1 (ppm)  | 0.00000 ppm  |
| Boron(B)                                  | 0-0.05 (ppm) | 0.00 ppm     |
| Barium(Ba)                                | 0-0.01 (ppm) | 0.00 ppm     |
| Beryllium(Be)                             | 0-0.02 (ppm) | 0.00 ppm     |
| Bismuth(Bi)                               | 0-0.02 (ppm) | 0.00 ppm     |
| Calcium(Ca)                               | 0-0.2 (ppm)  | 0.00 ppm     |
| Cadmium(Cd)                               | 0-0.01 (ppm) | 0.00 ppm     |
| Cobalt(Co)                                | 0-0.02 (ppm) | 0.00 ppm     |
| Chromium(Cr)                              | 0-0.01 (ppm) | 0.00 ppm     |
| Copper(Cu)                                | 0-0.02 (ppm) | 0.00 ppm     |
| Iron(Fe)                                  | 0-0.1 (ppm)  | 0.00 ppm     |
| Gallium(Ga)                               | 0-0.02 (ppm) | 0.00 ppm     |
| Germanium (Ge)                            | 0-0.02 (ppm) | 0.00 ppm     |
| Indium(In)                                | 0-0.02 (ppm) | 0.00 ppm     |
| Potassium(K)                              | 0-0.1 (ppm)  | 0.00 ppm     |

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|----------------------------------|--------------|-------------|
| Lithium(Li)                      | 0-0.01 (ppm) | 0.00 ppm    |
| Magnesium(Mg)                    | 0-0.1 (ppm)  | 0.00 ppm    |
| Manganese(Mn)                    | 0-0.03 (ppm) | 0.00 ppm    |
| Molybdenum(Mo)                   | 0-0.02 (ppm) | 0.00 ppm    |
| Sodium(Na)                       | 0-0.2 (ppm)  | 0.00 ppm    |
| Nickel(Ni)                       | 0-0.02 (ppm) | 0.00 ppm    |
| Lead(Pb)                         | 0-0.02 (ppm) | 0.00 ppm    |
| Platinum(Pt)                     | 0-0.2 (ppm)  | 0.00 ppm    |
| Tin(Sn)                          | 0-0.1 (ppm)  | 0.00 ppm    |
| Strontium(Sr)                    | 0-0.02 (ppm) | 0.00 ppm    |
| Titanium(Ti)                     | 0-0.02 (ppm) | 0.00 ppm    |
| Thallium(Tl)                     | 0-0.02 (ppm) | 0.00030 ppm |
| Vanadium(V)                      | 0-0.02 (ppm) | 0.00 ppm    |
| Zinc(Zn)                         | 0-0.05 (ppm) | 0.00 ppm    |
| Zirconium(Zr)                    | 0-0.02 (ppm) | 0.00 ppm    |
| Residue on ignition (as sulfate) | 0-5 (ppm)    | 0.96300 ppm |

A handwritten signature in black ink that reads "John Su".John Su  
QA & QC Manager