



Material No.: 6900-05
Batch No.: 4223033
Manufactured Date: 2024-02-28
Expiration Date: 2027-02-28
Revision No.: 0

Certificate of Analysis

| Test | Specification | Result |
|------------------------------------|---------------|----------|
| Assay (HCl)(w/w) | 32 - 35 % | 34 % |
| Trace Impurities - Aluminum (Al) | ≤ 20 ppt | < 1 ppt |
| Trace Impurities - Antimony (Sb) | ≤ 20 ppt | < 1 ppt |
| Trace Impurities - Arsenic (As) | ≤ 50 ppt | < 1 ppt |
| Trace Impurities - Barium (Ba) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Beryllium (Be) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Bismuth (Bi) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Boron (B) | ≤ 100 ppt | < 50 ppt |
| Trace Impurities - Cadmium (Cd) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Calcium (Ca) | ≤ 10 ppt | < 10 ppt |
| Trace Impurities - Cerium (Ce) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Cesium (Cs) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Chromium (Cr) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Cobalt (Co) | ≤ 10 ppt | < 2 ppt |
| Trace Impurities - Copper (Cu) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Dysprosium (Dy) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Erbium (Er) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Europium (Eu) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Gadolinium (Gd) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Gallium (Ga) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Gold (Au) | ≤ 50 ppt | < 1 ppt |
| Trace Impurities - Hafnium (Hf) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Holmium (Ho) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Indium (In) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Iron (Fe) | ≤ 10 ppt | < 10 ppt |
| Trace Impurities - Lanthanum (La) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities - Lead (Pb) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities - Lithium (Li) | ≤ 10 ppt | < 1 ppt |

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| Test | Specification | Result |
|---|---------------|--------------|
| Trace Impurities – Lutetium (Lu) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Magnesium (Mg) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Manganese (Mn) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Mercury (Hg) | ≤ 50 ppt | < 20 ppt |
| Trace Impurities – Molybdenum (Mo) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Neodymium (Nd) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Nickel (Ni) | ≤ 20 ppt | < 5 ppt |
| Trace Impurities – Niobium (Nb) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Palladium (Pd), For Information Only | | < 0.1 µmol/l |
| Trace Impurities – Platinum (Pt), For Information Only | | < 1 ppt |
| Trace Impurities – Potassium (K) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Praseodymium (Pr) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Rhenium (Re) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Rhodium (Rh) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Rubidium (Rb) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Ruthenium (Ru) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Samarium (Sm) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Scandium (Sc) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Selenium (Se), For Information Only | | < 200 ppt |
| Trace Impurities – Silver (Ag) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Sodium (Na) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Strontium (Sr) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Tantalum (Ta), For Information Only | | < 1 ppt |
| Trace Impurities – Tellurium (Te) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Terbium (Tb) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Thallium (Tl) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Thorium (Th) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Thulium (Tm) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Tin (Sn) | ≤ 20 ppt | < 1 ppt |
| Trace Impurities – Titanium (Ti) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Tungsten (W) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Uranium (U) | ≤ 1 ppt | < 1 ppt |

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Hydrochloric Acid
ULTREX® II Ultrapure Reagent



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|-----------------------------------|---------------|---------|
| Trace Impurities – Vanadium (V) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Ytterbium (Yb) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Yttrium (Y) | ≤ 1 ppt | < 1 ppt |
| Trace Impurities – Zinc (Zn) | ≤ 10 ppt | < 1 ppt |
| Trace Impurities – Zirconium (Zr) | ≤ 10 ppt | < 1 ppt |

For Laboratory, Research, or Manufacturing Use
Certificate Provided Reports Actual Lot Analysis
Storage Condition: Store below 25 °C.

Country of Origin: Canada
Packaging Site: Paris Mfg Ctr & DC

Michelle Bales
Sr. Manager, Quality Assurance

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
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