

CERTIFICATE OF ANALYSIS

Product : Hydrofluoric Acid ANALPURE® *ULTRA*
 Code : UAc0091
 Batch number : 5219041
 Expiry date : 30th January 2022

Assay : 49 % (w/w)
 Total Sulphur : < 50 ppb (ng/g)
 Trace impurities (ppt) (pg/g)

| Analyte | Maximum concentration | Actual value | Analyte | Maximum concentration | Actual value |
|------------|-----------------------|--------------|--------------|-----------------------|--------------|
| Aluminium | 20 | < 2 | Neodymium | 1 | < 0.01 |
| Antimony | 20 | < 0.05 | Nickel | 20 | < 5 |
| Arsenic | 50 | < 1 | Niobium | 10 | < 0.05 |
| Barium | 10 | < 0.1 | Palladium | 20 | < 0.1 |
| Beryllium | 10 | < 0.01 | Platinum | 20 | < 0.1 |
| Bismuth | 10 | < 0.05 | Potassium | 10 | < 2 |
| Boron | 100 | < 20 | Praseodymium | 1 | < 0.01 |
| Cadmium | 10 | < 0.02 | Rhenium | 10 | < 0.01 |
| Calcium | 10 | < 10 | Rhodium | 20 | < 0.01 |
| Cerium | 10 | < 0.01 | Rubidium | 20 | < 0.01 |
| Cesium | 10 | < 0.01 | Ruthenium | 20 | < 0.01 |
| Chromium | 10 | < 2 | Samarium | 1 | < 0.01 |
| Cobalt | 10 | < 0.05 | Scandium | 10 | < 0.01 |
| Copper | 10 | < 2 | Selenium | Information only | < 10 |
| Dysprosium | 1 | < 0.01 | Silver | 10 | < 0.01 |
| Erbium | 1 | < 0.01 | Sodium | 10 | < 1 |
| Europium | 1 | < 0.01 | Strontium | 10 | < 0.05 |
| Gadolinium | 1 | < 0.01 | Tantalum | Information only | < 0.01 |
| Gallium | 10 | < 0.01 | Tellurium | 1 | < 0.01 |
| Germanium | 10 | < 0.05 | Terbium | 1 | < 0.01 |
| Gold | 20 | < 0.1 | Thallium | 10 | < 0.01 |
| Hafnium | 10 | < 0.01 | Thorium | 1 | < 0.01 |
| Holmium | 1 | < 0.01 | Thulium | 1 | < 0.01 |
| Indium | 1 | < 0.01 | Tin | 20 | < 0.5 |
| Iron | 10 | < 2 | Titanium | 20 | < 10 |
| Lanthanum | 10 | < 0.01 | Tungsten | 20 | < 20 |
| Lead | 10 | < 0.1 | Uranium | 1 | < 0.01 |
| Lithium | 10 | < 0.01 | Vanadium | 10 | < 0.1 |
| Lutetium | 1 | < 0.01 | Ytterbium | 1 | < 0.01 |
| Magnesium | 10 | < 0.2 | Yttrium | 1 | < 0.01 |
| Manganese | 10 | < 0.1 | Zinc | 10 | < 2 |
| Mercury | 50 | < 20 | Zirconium | 10 | < 0.5 |
| Molybdenum | 10 | < 0.2 | | | |



Release date: **30. 01. 2019**

Person-in-Charge:

Vladimír Patera