



CERTIFICATE OF ANALYSIS

Product: ISOPROPANOL
Lot. No.: Example
Man. Date: Example
Exp. Date: Example
Grade: ULSI
Density (20°C): 0.785 g/cm³

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From a representative sample the following values were determined:

08.03.2021
QC Director Dr.-Ing. Christian Koch

| Parameter | Specification | Result |
|--|---------------|-------------|
| Assay (GC, on anhydrous basis) | 99.9-100 % | 99.9 % |
| Color (APHA, Pt-Co) | <= 10 | 5 |
| Water (KF) | <=1000 ppm | < 100 ppm |
| Phosphate (PO ₄) | <= 0.5 ppm | < 0.5 ppm |
| Nitrate (NO ₃) | <= 0.1 ppm | < 0.1 ppm |
| Chloride (Cl) | <= 0.5 ppm | < 0.5 ppm |
| Sulfate (SO ₄) | <= 0.5 ppm | < 0.5 ppm |
| Sulfite (SO ₃) | <= 0.5 ppm | < 0.5 ppm |
| Residue after evaporation | <= 5 ppm | 1 ppm |
| Alkalinity | <= 0.1 µeq/g | < 0.1 µeq/g |
| Acidity | <= 0.2 µeq/g | 0.1 µeq/g |
| Cations | | |
| Aluminum (Al) | < 20 ppb | < 10 ppb |
| Antimony (Sb) | < 20 ppb | < 10 ppb |
| Arsenic (As) | < 20 ppb | < 10 ppb |
| Barium (Ba) | < 20 ppb | < 10 ppb |
| Beryllium (Be) | < 20 ppb | < 10 ppb |
| Bismuth (Bi) | < 20 ppb | < 10 ppb |
| Boron (B) | < 20 ppb | < 10 ppb |
| Cadmium (Cd) | < 20 ppb | < 10 ppb |
| Calcium (Ca) | < 20 ppb | < 10 ppb |
| Chromium (Cr) | < 20 ppb | < 10 ppb |
| Cobalt (Co) | < 20 ppb | < 10 ppb |
| Copper (Cu) | < 20 ppb | < 10 ppb |
| Gallium (Ga) | < 20 ppb | < 10 ppb |
| Germanium (Ge) | < 20 ppb | < 10 ppb |
| Gold (Au) | < 20 ppb | < 10 ppb |
| Iron (Fe) | < 10 ppb | < 5 ppb |
| Lead (Pb) | < 20 ppb | < 10 ppb |
| Lithium (Li) | < 20 ppb | < 10 ppb |
| Magnesium (Mg) | < 20 ppb | < 10 ppb |
| Manganese (Mn) | < 20 ppb | < 10 ppb |
| Molybdenum (Mo) | < 20 ppb | < 10 ppb |
| Nickel (Ni) | < 20 ppb | < 10 ppb |
| Nobelium (No) | < 20 ppb | < 10 ppb |
| Palladium (Pd) | < 20 ppb | < 10 ppb |
| Platinum (Pt) | < 20 ppb | < 10 ppb |
| Potassium (K) | < 20 ppb | < 10 ppb |
| Silver (Ag) | < 10 ppb | < 5 ppb |
| Sodium (Na) | < 20 ppb | < 10 ppb |
| Strontium (Sr) | < 20 ppb | < 10 ppb |
| Tantalum (Ta) | < 20 ppb | < 10 ppb |
| Thallium (Tl) | < 20 ppb | < 10 ppb |
| Tin (Sn) | < 20 ppb | < 10 ppb |
| Titanium (Ti) | < 20 ppb | < 10 ppb |
| Vanadium (V) | < 20 ppb | < 10 ppb |
| Zinc (Zn) | < 20 ppb | < 10 ppb |
| Zirconium (Zr) | < 20 ppb | < 10 ppb |
| Particles | | |
| Particle count > 0.5 µm (Filtered through 0.2 um, filled under inert gas.) | < 100 p/ml | <30 p/ml |

The analytical results should not be construed as guaranteeing specific properties of the product or its suitability for a particular application. The above data do not release from carrying out an incoming goods inspection. This report is not to be signed.