



Trace analysis arium[®] pro and basic

	Detection threshold	Calculated concentration arium [®] pro and basic	Unit	Procedure
Aluminum Al	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Antimony Sb	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Arsenic As	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Barium Ba	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Beryllium Be	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Lead Pb	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Boron B	0.01	Under detection threshold	µg/L (ppb)	ICP-MS
Cadmium Cd	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Calcium Ca	0.003	Under detection threshold	µg/L (ppb)	ICP-MS
Cesium Cs	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Cerium Ce	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Chromium Cr	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Cobalt Co	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Dysprosium Dy	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Iron Fe	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Erbium Er	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Europium Eu	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Gadolinium Gd	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Gallium Ga	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Germanium Ge	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Gold Au	0.002	Under detection threshold	µg/L (ppb)	ICP-MS
Hafnium Hf	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Holmium Ho	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Indium In	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Iridium Ir	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Potassium K	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Copper Cu	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Lanthanum La	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Lithium Li	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Lutetium Lu	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Magnesium Mg	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Manganese Mn	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Molybdenum Mo	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Sodium Na	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Neodymium Nd	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Nickel Ni	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
Niobium Nb	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Osmium Os	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Palladium Pd	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Platinum Pt	0.002	Under detection threshold	µg/L (ppb)	ICP-MS
Praseodymium Pr	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Mercury Hg	0.005	Under detection threshold	µg/L (ppb)	ICP-MS

Elements

Execution and Analysis Procedure

The purified water analysis was executed by ATU GmbH, Analytics for Technology and Environment, **without a final filter at the sample outlet** of the arium[®] pro and basic. ATU GmbH is an internationally recognized testing laboratory for the analysis of purified water. The following procedures were used for the analysis: cations incl. TMA, NH₄⁺: ion exchange chromatography and "IC" (Dionex) enhancement technique. Anions: ion exchange chromatography and "IC" (Dionex) enhancement technique. SiO₂ solute: ion exchange chromatography "IC" and "GF-AAS" (Dionex, Perkin Elmer). Metals: mass spectrometry with inductively coupled plasma "ICP-MS 7500 cs" (Agilent).

VOC: gas chromatography with mass selective detector "GC-MS."

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Elements	Rhenium Re	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Rhodium Rh	0.002	Under detection threshold	µg/L (ppb)	ICP-MS
	Rubidium Rb	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Ruthenium Ru	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Samarium Sm	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Scandium Sc	0.002	Under detection threshold	µg/L (ppb)	ICP-MS
	Selenium Se	0.1	Under detection threshold	µg/L (ppb)	ICP-MS
	Silver Ag	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Strontium Sr	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
	Tantalum Ta	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Tellurium Te	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Terbium Tb	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Thallium Tl	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Thorium Th	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Thulium Tm	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Titanium Ti	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Uranium U	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Vanadium V	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS
	Bismuth Bi	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Tungsten W	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Ytterbium Yb	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
	Yttrium Y	0.001	Under detection threshold	µg/L (ppb)	ICP-MS
Zinc Zn	0.0005	Under detection threshold	µg/L (ppb)	ICP-MS	
Tin Sn	0.002	Under detection threshold	µg/L (ppb)	ICP-MS	
Zirconium Zr	0.002	Under detection threshold	µg/L (ppb)	ICP-MS	
Si	Silicon, solute SiO ₂	0.1	Under detection threshold	µg/L (ppb)	IC/GF-AAS
Cations	Lithium Li ⁺	0.0002	Under detection threshold	µg/L (ppb)	IC
	Sodium Na ⁺	0.0002	Under detection threshold	µg/L (ppb)	IC
	Ammonium NH ₄ ⁺	0.005	Under detection threshold	µg/L (ppb)	IC
	Potassium K ⁺	0.001	Under detection threshold	µg/L (ppb)	IC
	Trimethylamine TMA	0.005	Under detection threshold	µg/L (ppb)	IC
	Magnesium Mg ²⁺	0.0002	Under detection threshold	µg/L (ppb)	IC
	Calcium Ca ²⁺	0.001	Under detection threshold	µg/L (ppb)	IC
Anions	Fluoride F ⁻	0.003	Under detection threshold	µg/L (ppb)	IC
	Chloride Cl ⁻	0.005	Under detection threshold	µg/L (ppb)	IC
	Bromide Br ⁻	0.005	Under detection threshold	µg/L (ppb)	IC
	Nitrite NO ₂ ⁻	0.005	Under detection threshold	µg/L (ppb)	IC
	Nitrate NO ₃ ⁻	0.005	Under detection threshold	µg/L (ppb)	IC
	Phosphate PO ₄ ³⁻	0.01	Under detection threshold	µg/L (ppb)	IC
	Sulfate SO ₄ ²⁻	0.01	Under detection threshold	µg/L (ppb)	IC
Highly volatile org. Compounds (VOC)	1,1,2-Trichloroethane	1	Under detection threshold	µg/L (ppb)	GC-MS
	Trichloroethene	1	Under detection threshold	µg/L (ppb)	GC-MS
	Tetrachloroethene	1	Under detection threshold	µg/L (ppb)	GC-MS
	Tetrachloromethane	1	Under detection threshold	µg/L (ppb)	GC-MS
	1,2-Dichloroethane	1	Under detection threshold	µg/L (ppb)	GC-MS
	1,1-Dichloroethene	1	Under detection threshold	µg/L (ppb)	GC-MS
	1,2-cis-Dichloroethene	1	Under detection threshold	µg/L (ppb)	GC-MS
	Chloroform	1	Under detection threshold	µg/L (ppb)	GC-MS
	Dichlorobromomethane	1	Under detection threshold	µg/L (ppb)	GC-MS
	Dibromochloromethane	1	Under detection threshold	µg/L (ppb)	GC-MS
	Tribromomethane	1	Under detection threshold	µg/L (ppb)	GC-MS
Vinyl chloride	1	Under detection threshold	µg/L (ppb)	GC-MS	

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