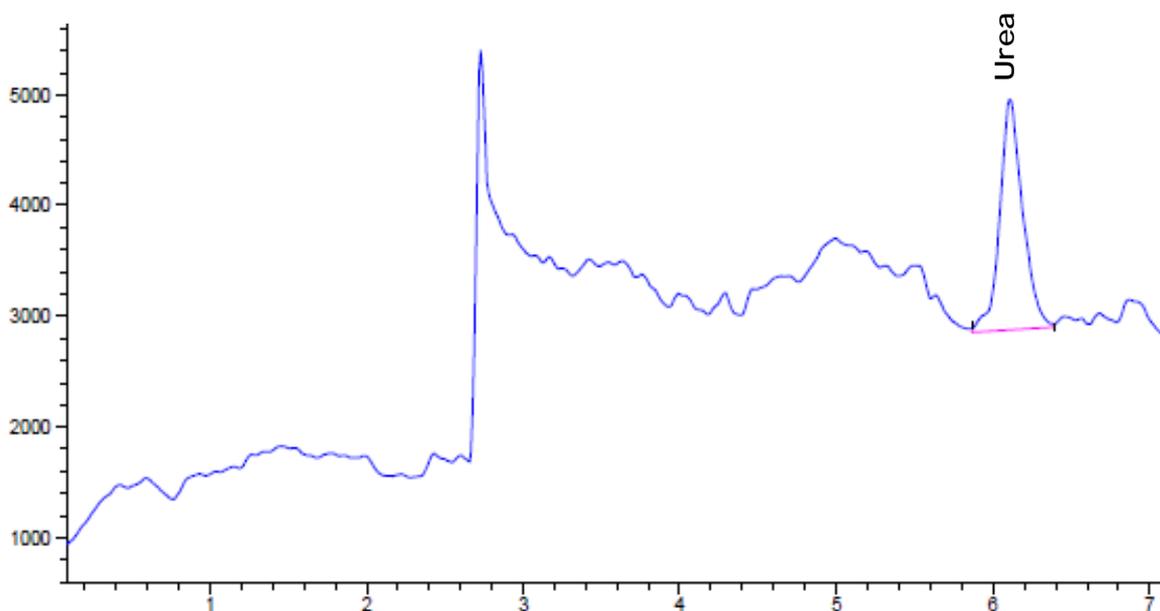


# Determination of urea in ultrapure water applying IC-MS



Urea is not the typical target analyte for ion chromatography. However, in combination with MS detection; IC is the method of choice for trace analysis of urea in ultrapure water. This Application Note shows the determination of ppb levels of urea using the Metrosep C 6 - 250/4.0 column with IC-MS coupling .

## Results

	Conc. [ $\mu\text{g/L}$ ]	SIM ion [m/z]
Urea	1.0	61 (positive mode)

## Sample

Ultrapure water spiked with 1 µg/L urea

## Sample preparation

None

## Columns

Metrosep C 6 - 250/4.0	6.1051.430
Metrosep C 4 Guard/4.0	6.1050.500

## Solutions

Eluent	3.0 mmol/L oxalic acid
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## Parameters

Flow rate	0.9 mL/min
Injection volume (MiPT)	100 µL
P <sub>max</sub>	20 MPa
Recording time	7 min
Column temperature	30 °C

## Parameters MS

Flow rate (after splitting)	0.2 mL/min
Ion source	ESI
Drying gas	7 L/min
Nebulizer pressure	15 psig
Gas temperature	350 °C
Capillary voltage	3500 V
Quad temperature	100 °C
High vacuum	< 1·10 <sup>-6</sup> Torr

## Analysis

MS detection
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## Instrumentation

940 Professional IC Vario ONE	2.940.1100
858 Professional Sample Processor – Pump – Injector	2.858.0030
A/D Interface Agilent	35900E
Quadrupol MS Agilent	G1956B
ESI (Electro Spray Interface)	G1948A
IC equipment: MiPT	6.5330.180
800 Dosino (MiPT)	2.800.0010

