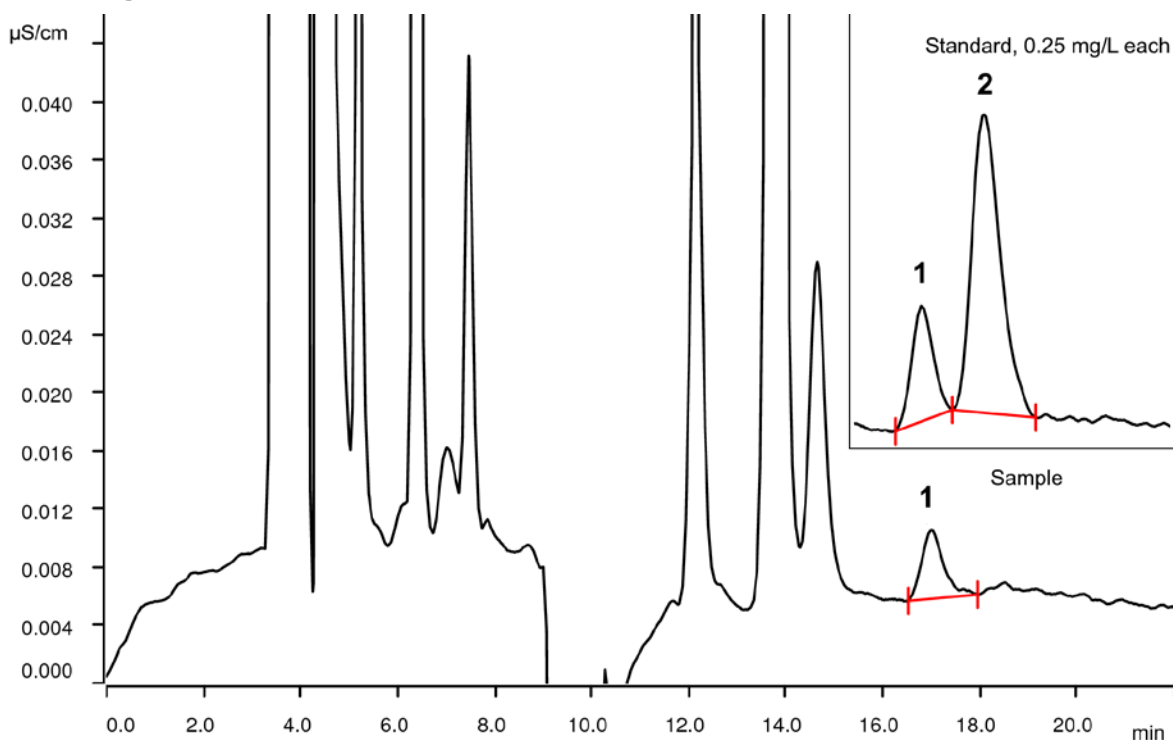


# Soluble tungsten and molybdenum in soil



Soluble tungsten and molybdenum are available in soil mainly as their oxosalts, tungstate and molybdate. Tungstate is rather a hazardous compound, which may interfere with plant growth. Molybdate, on the other hand, is a required micronutrient, required e.g. for nitrate fixation in legumes. Both can easily be determined after alkaline digestion with ion chromatography followed by conductivity detection after chemical suppression.

## Results

Sample	Conc. in soil [mg/kg]	Conc. in injected solution [mg/L]
1 Tungsten	76.9	0.157
2 Molybdenum	n.d.	n.d.

### Sample

Soil digest

### Sample preparation

Alkaline digestion of soil sample, filtration (0.2 µm) prior to injection.

### Columns

Metrosep A Supp 5 - 250/4.0	6.1006.530
Metrosep A Supp 5 Guard/4.0	6.1006.500

### Solutions

Eluent	4.2 mmol/L sodium carbonate 2.0 mmol/L sodium hydroxide
Suppressor regenerant	100 mmol/L sulfuric acid
Rinsing solution	STREAM

### Analysis

Conductivity detection after chemical suppression

### Instrumentation

930 Compact IC Flex Chs/PP	2.930.1300
IC Conductivity Detector	2.850.9010
858 Professional Sample Processor	2.858.0020
MSM Rotor A	6.2832.000
Adapter sleeve for Suppressor Vario	6.2842.020

### Parameters

Flow rate	0.7 mL/min
Injection volume	20 µL
P <sub>max</sub>	15 MPa
Recording time	22 min
Column temperature	Ambient

