VA Application Note No. V - 129

Title:	**Determination of total iron in the ppm range in phosphoric acid**

Summary:	The concentration of Fe is determined polarographically in phosphoric acid. The method is suitable for iron in concentrations in the ppm range. Fe(II) and Fe(III) show signals with the same sensitivity.

Sample:	Phosphoric acid
Sample preparation:	none

Analysis of Fe(total)

Oxalate buffer pH 2.0	c(ammonium oxalate) = 0.25 mol/L → adjusted to pH 2 with H_2SO_4
Measuring solution	10 mL ammonium oxalate solution + 10 µL phosphoric acid sample
Working electrode (WE)	**MME** (Multi Mode Electrode) 6.1246.020
Auxiliary electrode (AE)	**Pt** 6.0343.000
Reference electrode (RE)	Ag/AgCl/KCl (3 mol/L): 6.0728.020 + 6.1245.010

Parameters

Working electrode	SMDE
Stirrer speed	2000 rpm
Mode	DP
Purge time	300 s
Deposition potential	
Deposition time	0
Equilibration time	5 s
Pulse amplitude	50 mV
Start potential	+0.12 V
End potential	-0.3 V
Voltage step	5 mV
Voltage step time	0.5 s
Sweep rate	10 mV/s
Peak potential Fe	-40 mV

Results:	Fe
	750 mg/L

Determination of Fe