

VA Application Note No. V - 116

Title:	Zinc and lead in ethanol
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Summary:	Zn and Pb are determined by anodic stripping voltammetry (ASV) in acetate buffer at pH 4.6.
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Sample:	ethanol, food grade
Sample preparation:	none

Analysis of Zn, Pb

Electrolyte acetate buffer pH 4.6:
c(acetic acid) = 2 mol/L suprapur
+ c(ammonia) = 1 mol/L suprapur

Measuring solution 10 mL ultrapure water
+ 1 mL ethanol sample
+ 0.5 mL acetate buffer

Auxiliary electrode (AE) Pt

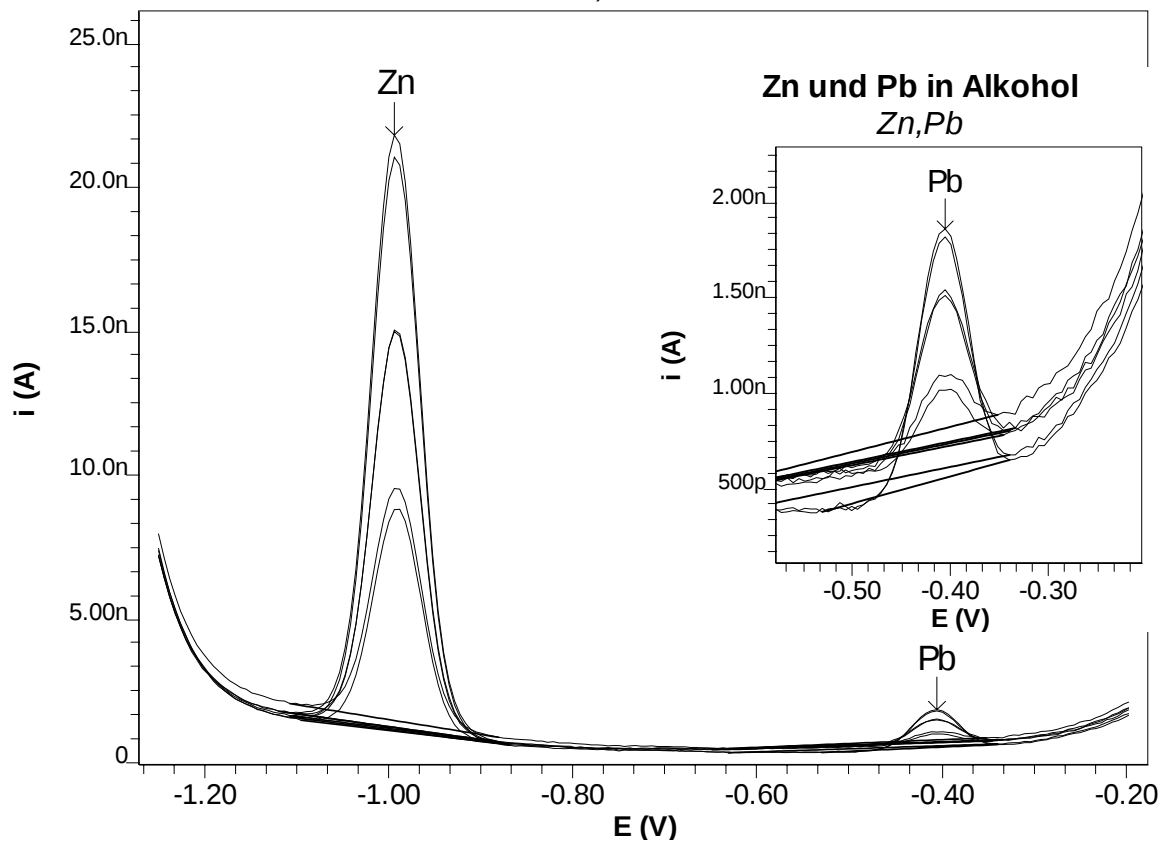
Reference electrode (RE) Ag/AgCl/KCl (3 mol/L)

Parameters	Working electrode	HMDE
	Stirrer speed	2000 rpm
	Mode	DP
	Purge time	300 s
	Deposition potential	-1250 mV
	Deposition time	60 s
	Equilibration time	5 s
	Pulse amplitude	50 mV
	Start potential	-1250 mV
	End potential	-200 mV
	Voltage step	6 mV
	Voltage step time	0.1 s
	Sweep rate	60 mV/s
	Peak potential Zn	-980 mV
	Peak potential Pb	-400 mV

Results:	Zn	Pb
	32.1 µg/L	3.1 µg/L

Determination of Zn, Pb

Zn und Pb in Alkohol Zn,Pb



Zn
 $c = 32.114 \text{ ug/L}$
 $\pm 2.036 \text{ ug/L (6.34\%)}$

Pb
 $c = 3.091 \text{ ug/L}$
 $\pm 0.693 \text{ ug/L (22.41\%)}$

