VA Application Note No. V-99

Title:	**Cadmium, lead and copper in triphosphate**

Summary:	Cadmium, lead and copper are determined by anodic stripping voltammetry (ASV) at the HMDE using aqueous nitric acid as supporting electrolyte.

Sample:	Pentasodium triphosphate
Sample preparation:	none

Determination of cadmium, lead and copper

Electrolyte	Nitric acid: $w(HNO_3)$ = 65%, suprapur	
Measuring solution	10 mL water + 250 mg sample + 250 µL nitric acid	
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	HMDE
	Stirrer speed	2000 rpm
	Mode	DP
	Purge time	300 s
	Deposition potential	–800 mV
	Deposition time	60 s
	Equilibration time	10 s
	Pulse amplitude	50 mV
	Start potential	–750 mV
	End potential	+150 mV
	Voltage step	6 mV
	Voltage step time	0.1 s
	Sweep rate	60 mV/s
	Peak potential Cd	–600 mV
	Peak potential Pb	–400 mV
	Peak potential Cu	+10 mV

Results:	Cd	Pb	Cu
	2.3 ng/g	102 ng/g	1.8 µg/g

Determination of Cd, Pb and Cu