VA Application Note No. V- 41

Title:	**Cadmium, lead, copper, nickel and cobalt in soybean oil after digestion**

***Summary*:**	Determination of Cd, Pb, Cu, Ni, Co in soybean oil after extraction by boiling with HCl under reflux

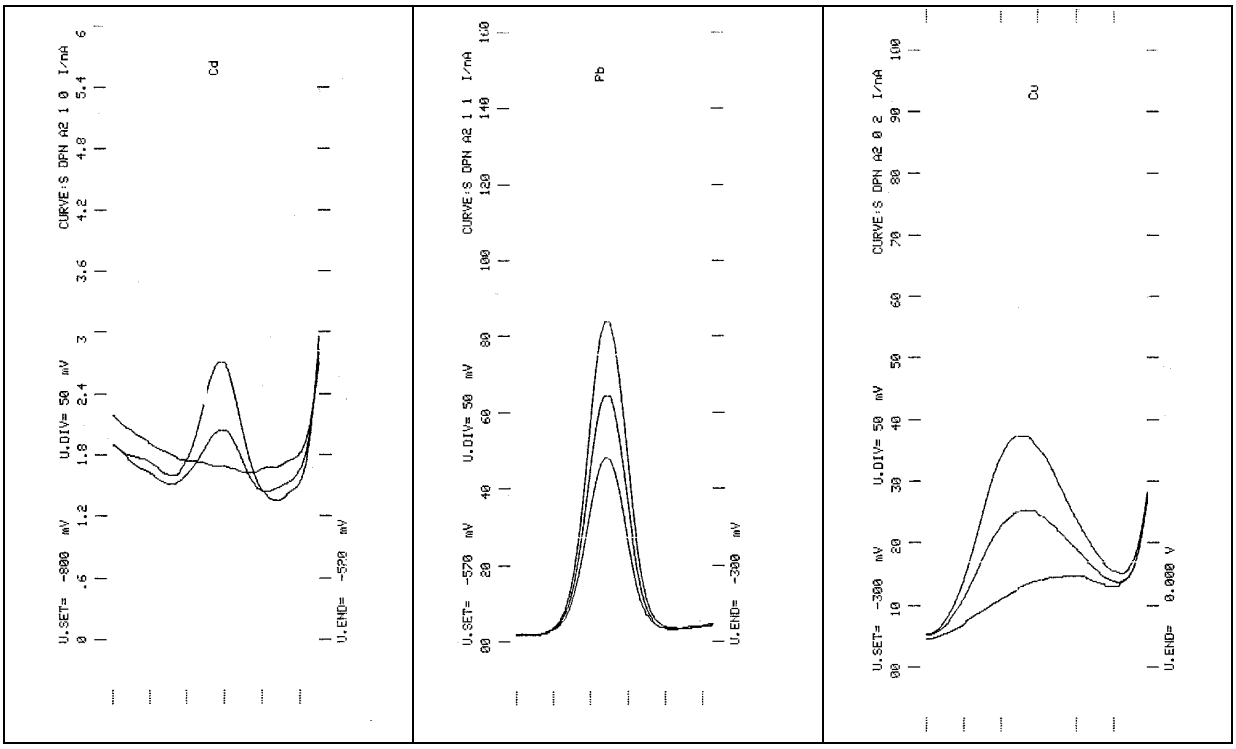
Sample:	Soybean Oil
Sample Preparation:	Extraction with HCl by boiling in a reflux apparatus. Washing of the oil phase with hot water. Separation of the oil phase in a separation funnel. The aquous phase is analysed by voltammetry.

Cadmium, lead and copper:	
Electrolyte:	Merck reagent cocktail «Suprapure B-931814» KCl / NaAc NH_4Ac buffer Suprapure pH = 4.64
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPASV (+50 mV), HMDE U_{meas} = -800 mV (120s), U_{start} = -800 mV, U_{end} = 0 mV Ep (Cd) = -650 mV, Ep (Pb) = -450 mV Ep (Cu) = -135 mV

Nickel and cobalt:	
Electrolyte:	Dimethylglyoxime in ethanol, NH_4Cl buffer pH = 8.9 of the solution to analyse
AE:	Pt
RE:	Ag/AgCl/KCl 3M
Parameters:	DPCSV (-75 mV), HMDE U_{meas} = -800 mV (30s), U_{start} = -800 mV, U_{end} = -1250 mV Ep (Ni) = -980 mV, Ep (Co) = -1080 mV

Results:	**Cd** µg/L	**Pb** mg/L	**Cu** mg/L	**Ni** mg/L	**Co** µg/L
	/	**7.1**	**1.2**	**1.1**	***/***

Determination of cadmium	Determination of lead	Determination of copper



Determination of nickel	Determination of cobalt