

Program	Program NUCLEU PN 06-12 01 01
Project title (ENG):	Analytical studies for determination of xenobiotics from the class of priority substances (Chlorfenvinphos, Chlorpyrphos, Trychlorfon) in water, according to HG 351/2005.
Project title (RO):	Studii analitice pentru determinarea unor xenobiotice din clasa substantelor prioritare periculoase (Clorfenvinfos, Clorpirifos, Triclorfon) in apa, in conformitate cu cerintele HG 351/2005
Duration	2006-2008
Team leader	Senior Researcher chem. Liliana Cruceru
Summary (short description) ENG	<p>Development of analytical methods for the determination of some organo phosphorus pesticides included in the list of priority substance (Chlorfenvinphos, Chlorpyrphos, Trychlorfon, Dichlorvos, Cumaphos) from wastewater using GC-NPD technique and HPLC-UV technique.</p> <p>Two extraction techniques were tested : Liquid-Liquid Extraction(LLE) with Hexane and Solid Phase Extraction (SPE) on C18 adsorbent with different extraction solvents. Both methods indicated a good recovery (83%-94%).</p> <p>The methods were validated “in-house”. The detection limits (0.02 µg/L – 0.06 µg/L) were situated under the imposed concentrations according to the legislation for priority substances.</p> <p>The methods are used for the analytical control of organophosphorus pesticides from different categories of water samples.</p>
Summary short description) RO	<p>Dezvoltarea unor metode analitice pentru determinarea unor pesticide organo fosforice incluse in lista substantelor prioritare/prioritar periculoase (Clorfenvinfos, Clorpirifos, Triclorfon, Diclorvos, Cumafos) din apa uzata, utilizand tehnicile GC-NPD si HPLC-UV.</p> <p>S-au testat doua tehnici de extractie: extractia lichid-lichid (LLE) in hexan si extractia in faza solida (SPE) utilizand diferiti solventi. Ambele metode au condus la randamente de recuperare de 83% -94%.</p> <p>Metodele au fost validate intern. Limitele de detectie stabilite (0,02 µg/L - 0,06 µg/L) s-au situate sub valoarea concentratiilor impuse de legislatia pentru substantele prioritare.</p> <p>Metodele sunt utilizate pentru controlul analitic al pesticidelor organo fosforice din diferite categorii de apa.</p>
Dissemination of results	
Conferences (platform, poster, abstract/full-paper)	Marcela Mitrita, Liliana Cruceru , Jana Petre, Vasile Iancu, Ioana Cruceru Posibilitati de determinare a substantelor prioritare periculoase de tip Clorpirifos si Mevinfos din diferite categorii de apa, <i>The XXIX-th Romanian Chemistry Conference, Calimanesti-Caciulata, Valcea</i> , 4-6 Oct. 2006
	Liliana Cruceru , Jana Petre, D. Staniloae, Marcela Mitrita, Analytical Investigation for the determination of the organophosphoric pesticides chlorfenvinphos and tryazofos from water, <i>International Symposium “The Environment and Industry”</i> , 25-27 October 2007 , Bucharest, Romania