Optimization of a simplified radiochemical method based on Sr®-resin for measurement of 90-Sr in nuclear waste

Emilie Baudat, Celine Gautier, Hector Bagàn, Alex Tarancón Sanz, Elodie Laporte, Christèle Colin, Pascal Fichet

lognumber	[leave this blank, will be entered by program chair]. Please send the completed form to sam.glover@uc.edu
filename	MARCXII_BAUDATEmilie.XLXS
Title	Ms.
First	Emilie
Last	BAUDAT
Organization	Commissariat A L' Energie Atomique Et Aux Energies Alternatives
Address	CEA - Centre Paris Saclay
Address2	
Address3	
City	Gif-sur-Yvette
State	Essonne
Zip	91191
Country	France
email	emilie.baudat@cea.fr
telephone	01 69 08 64 14
invite_letter	No
Abstract_Title	OPTIMIZATION OF A SIMPLIFIED RADIOCHEMICAL METHOD BASED ON SR®-RESIN FOR MEASUREMENT OF 90-SR IN NUCLEAR WASTE

Authors	Baudat, E (1,P); Gautier,C(1); Bagán, H(2); Tarancón, A(2); Colin, C(1); Laporte, E(1); Fichet,P(3);(1) Université Paris-Saclay, CEA, Service d'Études Analytiques et de Réactivité des Surfaces, 91191, Gif-sur-Yvette, France,(2) Department of Chemical Engineering and Analytical Chemistry, University of Barcelona, Marti i Franqués, 1-11, ES-08028, Barcelona, Spain. (3)CEA, DES/DDSD/DFDE/SGOF, Building 611, 91191, Gif-sur-Yvette,

Abstract_Body	As a caracteristic fission product with a half-life of 28.8 years, Sr-90 must be quantified in nuclear waste. Prior to its nuclear measurement, it is necessary to separate it from its matrix and interferents with radiochemical method. The extraction chromatographic resin, Sr-resin®, developed by Eichrom in the 1990's is widely applied. Its efficiency has been demonstrated for a wide range of samples even if pre-treatments are necessary depending on the nature of the sample. For nuclear waste, difficulties can be encountered especially with samples with high Pu content. A precipitation with ammonia can be used but this can lead to a Sr loss depending on the experimental conditions (ex: digestion step with HF acid or not) and interferents present. In this presentation, the robustness of an alternative pre-treatment using TRU-resin® will be highlighted. It has been proven to be efficient on all the nuclear waste samples investigated in the study.

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