

Carbon 14 analysis - STUK

Measurement	Liquid scintillation counting
Method used for matrices	Environmental Terrestrial
Separation Method	No separation
Radionuclide(s)	C-14
Quantity of sample used (in kg, l, ...)	0.2 - 0.5 g (plant)
Counting time for the method	500 min
MDA of the technique	25 - 30 Bq/kg
FWHM (Energy MeV)	-
Method Evaluated	No
Method Accredited	No
Procedure	

Description of the method

The sample preparation for the liquid scintillation counting was done with 307 Sample Oxidizer by PerkinElmer. Dried environmental samples were combusted completely in the oxygen atmosphere to carbon dioxide and water. The $^{14}\text{CO}_2$ was absorbed by special reagent CarboSorb E (3-methoxypropylamine) and mixed with liquid scintillation cocktail Permafluor E+. The apparatus is almost fully automatic and the combustion of one sample takes time for only few minutes. Samples were counted with low level liquid scintillation counter 1220 Quantulus.

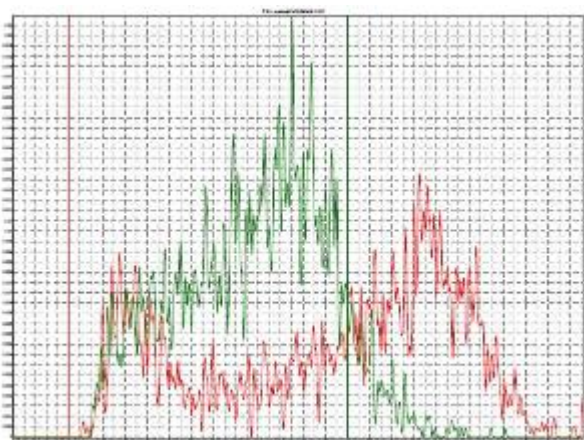


Figure. C-14 spectrum of environmental sample. The green spectrum is sample spectra and red is background spectra.

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