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Characterization of an extraction chromatographic resin for the separation and determination of ³⁶Cl

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The monitoring of long-lived radionuclides is of great importance in the context of the surveillance of nuclear facilities, during their operation as well as during their decommissioning. This is especially true for radionuclides of rather volatile elements as chlorine and iodine, main interested being Cl-36 and I-129. LSC is a widely used measurement technique for the determination of Cl-36 that requires a thorough and selective sample preparation in order to give accurate results. Sample preparation methods frequently employed such as volatilization and/or repeated precipitation steps can be rather elaborate and time-consuming, it is thus attempted to develop an easy to use extraction chromatographic resin that allows extraction, and subsequent separation, of Cl and I from pretreated environmental and decommissioning samples and that allows their determination via LSC.
The results of the characterization of the resin including k' values of potential interferents and of the method development are presented as well as some first results of the analysis of real samples.

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