

5 ASLP - is this the right tool for characterising PFAS risk in situ and in waste materials

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The commonplace extraction methods of ASLP/TCLP were designed to assess the potential future leachability of metals in specific situation and have been applied to assessing PFAS contamination in the absence of other methods. In this context the methods are somewhat arbitrary and essentially offer “water extractable PFAS at a specific pH, over 18-hour period at a 1:20 solid-liquid ratio within a well-mixed system”. This may be compared to the method for PFAS total concentration which offers total organic solvent extractable PFAS. The ratio between these tests offers us some insight into PFAS behaviour in a given material but the real-world application is questionable.

It is suggested that perhaps ASLP and total concentration are not adequate by themselves for characterising the future risk of PFAS impacts in soils and wastes, particularly where large volumes that present a large flux risk are concerned. Improved method such as decay rate, kinetic and isothermal studies may be more useful in understanding and better estimating mass flux and would provide more useful metrics as applicable to risk assessment and decision making. The present work explores this notion and looks at how alternative methods could be applied to “upgrade” our analytical and risk assessment toolbox.