Are You Ready For Your Metabolism Study?

In many instances, chemists and environmental fate scientist for different reasons forget or make assumptions or educated calculations on certain parameters for soil or sediment metabolism studies instead of actually testing them and checking

The following are parameters we have discovered can be critical and may alleviate issues later if they are actually tested.

- Verification of specific activity for the radio-label material before using in the study. Based on number of labelling, confirm molecular weight, exact mass information, isotopic ratio and radio-purity
- % Error from theoretical vs actual with your dosing calculation
- Extraction methods and vessel adsorption for a period longer than 2 days
- Matrix load of the dirty sample on the HPLC column being used
- Clean up steps after concentrating or before
- Column suitability with matrix not just standard and at different points of the study
- Quench corrections for the solvents used
- Filter testing: after clean-up, filter may retain material leading to poor recoveries. Different filter may be required
- Vessel adsorption: after concentrating many times material can stick to the concentrating vessel and you may not be aware of this if you do not test it and recognize this
- Calculating dielectric points for each solvent used this could help you realize a solvent is not very useful even though it may seem it is
- Test your extraction method on the actual soils or sediment being used
- Be proactive and plan ahead for the possibility of high bound residue
- Start your kinetic determination as soon as possible to determine which fit will be the best: SFO, DFOP, IORE etc. or if you will need to use other options

These recommendations are after experiencing intricacies in performing hundreds of metabolism studies at our lab and there could be more such things required to test before initiation of your metabolism study to ensure the study will go smooth. We also recommend running a pilot test to ensure you study is flawless or help you discover the difficulties that may arise throughout. We recommend this to minimize surprises and difficulties later on.

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