

ABSTRACT - Ir. Olivia Morales-Gonzalez MSc
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“Sustainability assessment of cutting-edge micro-flow process technology”

We developed the first quantitative solvent selection methodology, to create a Functional Solvent Factory. A comprehensive assessment was done by applying a solubility model, followed by an economic, reactivity and safety assessment. SHE assessment was complemented by conducting an LCA (cradle-to-gate) to each solvent. From the solubility model, the amount of solvent needed was quantified, and combined with the LCA results allowed us to select the greenest solvent coupled with a quantitative impact assessment. This methodology was applied to conventional solvents, but it can also and will be applied to ionic liquids, and develop a green Functional Solvent Factory.