



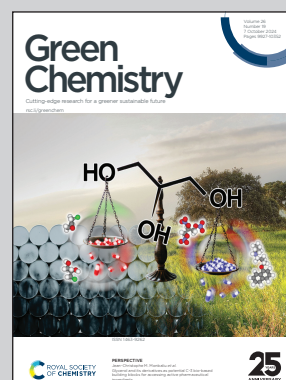
Showcasing research from Professor Jose V. Ros-Lis' laboratory, University of Valencia, Valencia, Spain.

A comparative life cycle assessment of the synthesis of mesoporous silica materials on a small and a large scale

Life Cycle Assessment methodology has been applied to the most common silica mesoporous materials from grams to kilograms scale. On a small-scale energy and solvents are the main impact sources. By contrast at large-scale the reagents are significant, with a CO₂ emissions of 31 kg per kg of material. Calcination seems a more sustainable for the removal of the structure directing agent in comparison with extraction. The impact of nanoparticulated materials is higher than in micrometric materials.

Please credit artist Helena Castillo

As featured in:



See Jose Vicente Ros-Lis *et al.*,
Green Chem., 2024, **26**, 10107.