



Showcasing a tutorial review by Dr Swaroop Chakraborty's Group,
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Evaluating the path to sustainability: SWOT analysis of safe and sustainable by design approaches for metal-organic frameworks

Metal-Organic Frameworks (MOFs) are next-generation materials with exceptional tunability and functionality. This review applies a SWOT analysis through a Safe and Sustainable by Design (SSbD) lens, exploring greener synthesis, improved stability, and responsible scaling. We highlight MOFs' potential in catalysis, environmental remediation, and circular economy applications while addressing lifecycle safety challenges and competition from emerging materials. By integrating SSbD framework, MOFs can become sustainable solutions for industrial and environmental challenges, shaping a cleaner, safer future.

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