Processing and applications of MXenes at the MXene Innovations Lab (MIL)

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Abstract

The MXene Innovation Lab at RIC2D, Khalifa University is at the forefront of advancing MXene-based technologies through innovative synthesis, processing, and application development. Our multidisciplinary research explores the versatile potential of MXenes in areas such as water remediation, biosensing, electromagnetic interference (EMI) shielding, energy storage, and energy conversion. By tailoring the chemical composition and surface functionalization of MXenes, we engineer novel hybrid structures with enhanced properties. We process MXenes into films, composites, fibers, and inks, enabling their integration into diverse platforms. Our pioneering efforts in high-resolution printing methods aim to revolutionize flexible electronics, establishing a foundation for next-generation devices and sustainable technologies [1-5].

References

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Figure

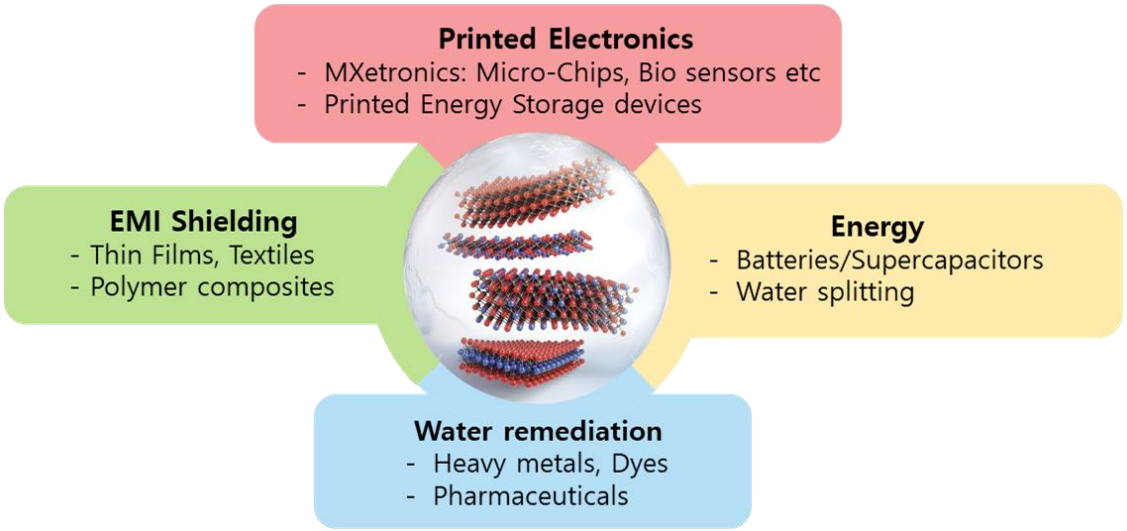

Figure 1: Processing and applications of MXenes