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| Sommario/riassunto      | <p>Layered Double Hydroxides (LDHs) certainly do not represent a newcomer to the scientific community, yet they continue to attract a strong and general interest among a vast and multifaceted range of researchers. This persistent modernity is definitely due to some peculiar characteristics of these materials, which allow researchers and engineers to play with different aspects of two worlds: organic and inorganic, crystalline and molecular, solid and liquid, cationic and anionic. A virtually infinite number of possible chemical combinations takes advantage of their layered structure to express an unrivaled collection of remarkable properties. The capture and/or release of organic and inorganic species, versatile low-cost catalytic activity, and blending with other compounds to build up a variety of hybrid composites, are just some of the many effects investigated to date. As a result, the applications encompass almost all aspects of our life, ranging from renewable energy production to water purification, including biomedical applications, gas sensing, drug delivery, and food packaging and safety. This Special Issue highlights some of the recent research lines, and shows that remarkable progress has been and is still being made in all these aspects, to allow the consideration of LDHs as one of the most interesting and versatile inorganic materials.</p> |