1. Record Nr. UNINA9910566477103321 Autore Kumar Narendra **Titolo** Microporous Zeolites and Related Nanoporous Materials: Synthesis, Characterization and Applications in Catalysis Basel, : MDPI - Multidisciplinary Digital Publishing Institute, 2022 Pubbl/distr/stampa Descrizione fisica 1 electronic resource (228 p.) Soggetti Technology: general issues Chemical engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Microporous zeolites and nanoporous materials are important from an Sommario/riassunto academic and industrial research perspective. These inorganic materials have found application as catalysts in several industrial processes in oil refinery, petro-chemical reactions, fine chemicals, speciality, drug discovery and pharmaceutical synthesis, exhaust emission control for stationary and mobile engines and industrial wastewater treatment. The reasons for their versatile applications in several industrial processes are their unique properties of microporous zeolites and nanoporous materials such as uniform pores, channel systems, shape selectivity, resistance to coke formation, thermal and hydrothermal stability. Furthermore, the possibility to tune the amount and strength of Brønsted and Lewis acid sites and their crystal size, as well as the

possibility of modification with transition and noble metals, are key to

their success as efficient, high selectivity and stable catalysts.