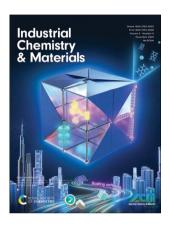
Industrial Chemistry & Materials

An international journal of significant innovative research and major technological breakthroughs in all aspects of industrial chemistry and materials rsc.li/icm

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2755-2500 CODEN ICMNCZ 3(6) 645-756 (2025)



Cover See Ken-ichi Otake. Ming-Shui Yao, Susumu Kitagawa et al., pp. 651-680. Image reproduced by permission of Ming-Shui Yao from Ind. Chem. Mater., 2025,

REVIEWS

651

Soft porous crystals: flexible MOFs as a new class of adaptive materials

Jiahui Guo, Sai Chu, Fangli Yuan, Ken-ichi Otake,* Ming-Shui Yao* and Susumu Kitagawa*



681

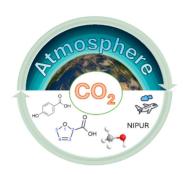
Advances in coupling catalytic selective oxidation reactions with in situ synthesis of hydrogen peroxide

Jinghui Lyu,* Han Wu, Qingqing Li, Shihao Wang, Jinke Yao, Tao Liu, Wenying Chu, Feng Feng, Qunfeng Zhang, Qingtao Wang, Dahao Jiang, Guofu Zhang, Chunshan Lu, Chengrong Ding* and Xiaonian Li*



PERSPECTIVE

703



Alternative sources of carbon for moving towards a sustainable carbon cycle

Michele Aresta

PAPERS

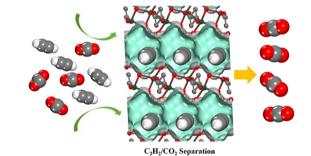
710



Deactivation mechanisms of Cu-Zn-Al₂O₃ in CO₂ hydrogenation induced by SO₂ exposure

Xuan Bie, Ruoyu Wu, Bocheng Yu, Xuelong Quan, Shiyu Zhang, Qinghai Li, Yanguo Zhang and Hui Zhou*

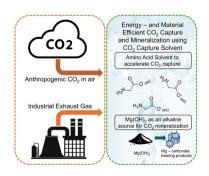
723



Scalable copper-based coordination frameworks with tailored pore chemistry for energy-efficient C₂H₂/CO₂ separation

Hao-Ling Lan, Su-Tao Zheng, Li Xu, Guo-Wei Guan and Qing-Yuan Yang*

732



Reactive CO₂ capture and mineralization of magnesium hydroxide to produce hydromagnesite with inherent solvent regeneration

Xun Gao, Peilong Lu, Ivan Kuzmenko, Jan Ilavsky and Greeshma Gadikota*

PAPERS

744

Improved CO₂ capture performance of CeO₂-doped CaO-based pellets: effects of particle size and steam treatment

Yong Li, Wuhao Sun, Xilei Liu, Jian Chen,* Hedan Tang, Youshi Li, Mingdi Li and Lunbo Duan*

