Special Issue

Metal Oxides for Heterogeneous Catalysis

Message from the Guest Editors

Catalysis plays a key role in chemical, physical, and biological sciences and is one of the most important fields in industrial chemistry.

For the majority of different industrial catalytic reactions, the use of metal oxide catalysts is essential; these materials find uses in the majority of refining and petrochemical processes, the synthesis of chemicals, biomass transformation reactions, and the abatement and control of environmental pollution. These catalysts include simple or mixed metal oxides such as alumina, silica–alumina, metal organic frameworks (MOFs), complex oxides such as polyoxometalates (POMs) of Keggin or Dawson type, phosphates, multicomponent mixed oxides (e.g., molybdates), hexaaluminates, and high-entropy oxides. In particular, MOFs—a relatively new type of material with potential for rational design, are attracting increasing interest for heterogeneous catalysis applications.

This Special Issue invites contributions that focus on the development of solid metal□oxide□type catalysts for use in gas or liquid phase heterogeneous catalytic or photoelectrocatalytic reactions. Novel methods for the preparation of metal oxides are especially welcome.

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Deadline for manuscript submissions

closed (10 August 2022)

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/53099

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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