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Inorganic Semiconductor Photocatalysts for Environmental Protection and Remediation

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Message from the Guest Editor

Environmental protection should be of utmost importance for everyone. Nevertheless, the state of the environment is becoming worse at an unsettling pace. Therefore, clear steps should be taken to preserve and, if possible, to improve its current state.

The most efficient methods in this respect are those described as advanced oxidation processes (AOPs), while heterogeneous photocatalysis (HP) is considered as the most efficient among the latter. HP utilizes inorganic semiconductors for degradation of organic pollutants. The latter can be found in liquid and gaseous or solid media. Accordingly, inorganic semiconductors have the potential for water/wastewater treatment, air purification, and soil decontamination. Moreover, they can be incorporated into building or construction materials, and distributed on the surface to present self-cleaning activity. Finally, a vast number of inorganic photocatalysts show antimicrobial behavior, being able to deactivate bacteria, fungi, and/or viruses.



