Zintl phases have received rapidly-increasing attention over the past decade due to their potentially-useful electronic, thermal, as well as magnetic properties. Zintl phases are considered a subset of the intermetallics, with properties ranging from insulating to metallic, but the main premise is the simple idea of ionic and covalent bonding within an intermetallic composition. In the most restrictive definition, Zintl phases are semiconducting intermetallics, where the electropositive cation provides the necessary electrons to the more electronegative metalloids in order to obtain a closed shell electronic configuration.

This Special Issue aims to provide a forum for contributions focused on all aspects of Zintl phases, both traditional Zintl phases and those that can be included with an expanded definition (containing transition metals, rare earths, etc.), including new experimental and theoretical research that advances the understanding of the synthesis, structure, properties, as well as applications of materials that can be described as Zintl phases or variants thereof.
Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers fourteen comprehensive topics: Biomaterials; Energy Materials; Composites; Structure Analysis; Porous Materials; Manufacturing Processes; Advanced Nanomaterials; Smart Materials; Thin Films; Catalytic Materials; Carbon Materials; Materials Chemistry; Materials Physics; Optics and Photonics; Corrosion; Building Materials. The distinguished and dedicated editorial board and our strict peer-review process ensure the highest degree of scientific rigor and review of all published articles.

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