Einige Phosphidhalogenide des Lanthans und verwandte Verbindungen

Some Phosphide Halides of Lanthanum and Related Compounds

Oliver Oeckler⁹, Hansjürgen Mattausch⁹ and Arndt Simon⁹

§ Department Chemie und Biochemie, Ludwig-Maximilians-Universität,
Batenandtstraße 5–13, 81377 München, Germany

¹⁰ Max-Planck-Institutfür Festkörperforschung, Heisenbergstraße 1, 70569 Stuttgart, Germany

Reprint requests to Dr. O. Oeckler. Fax: +49(0)89 2180 77440. E-mail: oliver.oeccker@gmx.de


The pnictide halides La₂I₂P, La₂I₂As, La₂I₂Sb, La₂Br₂P and Y₂Br₂P have been synthesized from lanthanum and yttrium, red phosphorus, arsenic, and antimony, respectively, and the corresponding metal trihalides. Their structures contain close-packed metal atom double layers with pnicogen atoms in the octahedral voids. These layers are sandwiched by halogen atom layers. The compounds crystallize in the trigonal 1T-type with one sandwich-like layer per unit cell, or in the rhombohedral 3R-type with three layers per unit cell. Polytypism and twinning have been observed. For 3R-La₂I₂P, conductivity measurements have shown metallic behaviour.

Key words: Phosphide Halides, Lanthanum, Condensed Clusters, Polytypism