

# Einige Phosphidhalogenide des Lanthans und verwandte Verbindungen

Some Phosphide Halides of Lanthanum and Related Compounds

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The pnictide halides  $\text{La}_2\text{I}_2\text{P}$ ,  $\text{La}_2\text{I}_2\text{As}$ ,  $\text{La}_2\text{I}_2\text{Sb}$ ,  $\text{La}_2\text{Br}_2\text{P}$  and  $\text{Y}_2\text{Br}_2\text{P}$  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 pnictogen 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- $\text{La}_2\text{I}_2\text{P}$ , conductivity measurements have shown metallic behaviour.

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