Nickel
I 7300
52- 025

**Ternary Magnesium Compounds $Ln_{23}Ni_7Mg_4$ (Ln: La, Ce, Pr, Nd, Sm) with $Pr_{23}Ir_7Mg_4$ Type Structure.** — The title compounds are prepared by reaction of stoichiometric mixtures of the elements (sealed Ta-tubes, 1300→920 K, 2h). The isotypic compounds $Ln_{23}Ni_7Mg_4$ (Ln: La, Ce, Pr, Nd, Sm) crystallize in the hexagonal space group $P6_3mc$ with Z = 2 (powder XRD; single crystal XRD for Ln: La, Pr).The structure contains Ni-centered $Ln_6$ trigonal prisms, which are connected via common edges to form a three-dimensional network that hosts isolated $Mg_4$ tetrahedra. $Ce_{23}Ni_7Mg_4$ exhibits Curie—Weiss behavior with a magnetic moment of 2.54 $\mu_B$/Ce atom, indicative of trivalent cerium. — (TUNCEL, S.; HERMES, W.; CHEVALIER, B.; RODEWALD, U. C.; POETTGEN*, R.; Z. Anorg. Allg. Chem. 634 (2008) 12-13, 2140-2144; Inst. Anorg. Anal. Chem., Westfael. Wilhelms-Univ., D-48149 Muenster, Germany; Eng.) — Schramke