

Magnetic properties of LaNi_5 -based compounds

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Abstract: Magnetic properties of the $\text{La}(\text{Ni}_{4.5}\text{M}_{0.5})$, $(\text{La}_{1-x}\text{R}_x)\text{Ni}_5$ ($\text{M} = \text{Fe}, \text{Co}, \text{Mn}, \text{Cu}, \text{Cr}, \text{Si}$ and $\text{R} = \text{Nd}, \text{Pr}$) and their hydride compounds have been studied by magnetization measurement using a VSM. The susceptibility (??) of the samples increases with Co, Mn, Fe, Nd, Pr but decreases with Cu, Cr, Si additives. The hydrogenation changes magnetic properties of the $\text{La}(\text{Ni}_{4.5}\text{M}_{0.5})$, $(\text{La}_{1-x}\text{R}_x)\text{Ni}_5$ parent compounds. Specially, the milling process changes magnetic properties of LaNi_5 . This work indicates that besides electrochemical measurements, the study of magnetic properties also gives important information on the quality of rechargeable sealed nickel-metal hydride batteries. ?? 2003 Published by Elsevier Science B.V.

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