

Magnetic properties of LaNi₅-based compounds

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Abstract: Magnetic properties of the La(Ni_{4.5}M_{0.5}), (La_{1-x}R_x)Ni₅ (M = Fe, Co, Mn, Cu, Cr, Si and R = Nd, Pr) and their hydride compounds have been studied by magnetization measurement using a VSM. The susceptibility (χ) of the samples increases with Co, Mn, Fe, Nd, Pr but decreases with Cu, Cr, Si additives. The hydrogenation changes magnetic properties of the La(Ni_{4.5}M_{0.5}), (La_{1-x}R_x)Ni₅ parent compounds. Specially, the milling process changes magnetic properties of LaNi₅. 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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