Let $R$ be a Prüfer domain. We say that $R$ has the \textit{strong factorization property} if each nonzero ideal $I$ of $R$ can be written uniquely as $I = I_v \Pi$, where $I_v$ is the divisorial closure of $I$ and $\Pi$ is the product of those nondivisorial maximal ideals $M$ of $R$ which contain $I$ and for which $IR_M$ is also nondivisorial. Relaxing this definition a bit, we say that $R$ has the \textit{weak factorization property} if each nonzero ideal $I$ satisfies $I = I_v \Pi$, where $\Pi$ is a product of (not necessarily distinct) maximal ideals. We show that $h$-local Prüfer domains have the strong factorization property and that the converse holds in the finite-dimensional case. On the other hand, we give examples of (non-Dedekind) almost Dedekind domains with the weak factorization property. In the case of strong factorization, we also study how the factorizations of ideals $I$ and $J$ affect those of $I + J$, $IJ$, etc. (Received August 22, 2005)