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Given a primitive positive integer vector $a \in \mathbb{Z}_{>0}^n$, the largest integer that can not be represented as a non-negative integer combination of the coefficients of a is called the Frobenius number of a . We show that the asymptotic growth of the Frobenius number on average is significantly slower than the growth of the maximum Frobenius number. More precisely, we prove that it does not essentially exceed $\|a\|_\infty^{1+1/(n-1)}$, where $\|\cdot\|_\infty$ denotes the maximum norm. (Received February 23, 2009)