We study multiplication operators on the weighted Banach spaces $H_\mu^\infty$ of an infinite tree $T$. We characterize the bounded and the compact operators, as well as determine the operator norm. In addition, we determine the spectrum of the bounded multiplication operators and characterize the isometries. Finally, we study the multiplication operators between the weighted Banach spaces and the Lipschitz space $\mathcal{L}$ on $T$ by characterizing the bounded and the compact operators, determine estimates of the operator norm, and show there are no isometries. (Received September 17, 2015)