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Let  $L$  be a (restricted) Lie algebra over a field  $\mathbb{F}$  and  $G$  a group. It is known when the group algebra  $\mathbb{F}G$  of  $G$  or the enveloping algebra  $U(L)$  of  $L$  are Lie solvable or Lie nilpotent. Suppose now that  $G$  acts on  $L$  by automorphisms. Then one can form the smash product  $U(L)\#\mathbb{F}G$ . Smash products appear in the context of Hopf algebras as it is known that every cocommutative Hopf algebra over an algebraically closed field of characteristic zero can be presented as a smash product. We give necessary and sufficient conditions under which  $U(L)\#\mathbb{F}G$  is Lie solvable or Lie nilpotent. (Received August 11, 2014)