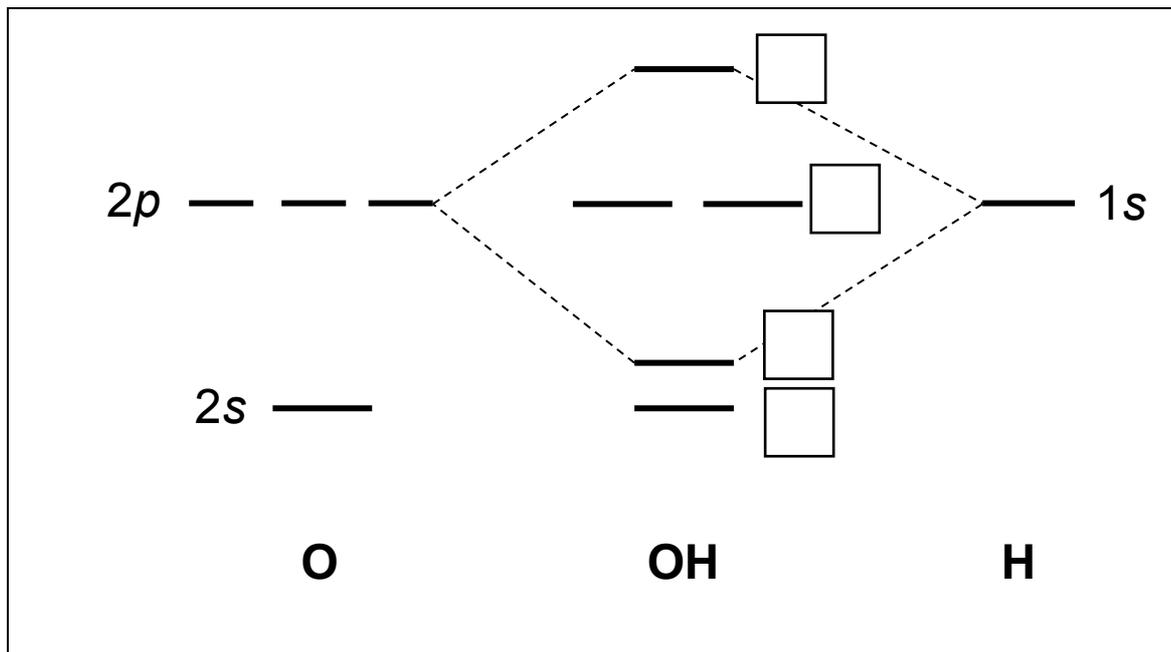


- The OH radical is the most important species in the atmosphere for removing pollutants. A molecular orbital diagram of this species is shown below. Core orbitals are omitted.

Marks
8



Using arrows to indicate electrons with their appropriate spin, indicate on the above diagram the ground state occupancy of the atomic orbitals of O and H, and of the molecular orbitals of OH.

In the provided boxes on the above diagram, label the molecular orbitals as n , σ , σ^* , π , π^* , etc.

What is the bond order of the O–H bond?

Why do we call OH a “radical”? How does the MO diagram support this?