

Oxygen is the chemical element with the symbol O and atomic number 8. It is a member of the **chalcogen** group in the periodic table, **a highly reactive nonmetal, and an oxidizing agent** that readily forms oxides with most elements as well as with other compounds. By mass, oxygen is the **third-most** abundant element in the universe, after hydrogen and helium. At standard temperature and pressure, two atoms of the element bind to form **dioxygen**, a colorless and odorless diatomic gas with the formula  $O_2$ . Diatomic oxygen gas constitutes 20.8% of the Earth's atmosphere. As compounds including oxides, the element makes up almost half of the Earth's crust.

### Aspect: Properties of Chemical Element

Q1: What is the atomic number of Oxygen?

A1: 8.

Q2: Which group of the periodic table is Oxygen in?

A2: Chalcogen.

Q3: What is the ranking of oxygen in the universe by mass?

A3: Third-most.

### Aspect: Chemical Reaction

Q4: Which kind of chemical is Oxygen that readily forms oxides with most elements as well as with other compounds?

A4: A highly reactive nonmetal, and an oxidizing agent.

Q5: What would two Oxygen atoms of the element bind to form at standard temperature and pressure?

A5: Dioxygen.