

Chemical and Physical Properties of Water

Water is a colorless, odorless, and tasteless liquid at room temperature and pressure. It is essential for life and is the most abundant substance on Earth.

Water is a polar molecule, which means it has a partial positive charge on the hydrogen atoms and a partial negative charge on the oxygen atom.

Properties of Water at Different Stages

Boiling Point

At sea level, water boils at 100°C (212°F).

Freezing Point

At sea level, water freezes at 0°C (32°F).

Density of Ice

Ice is less dense than liquid water, which is why it floats.

Surface Tension

Water has a high surface tension due to hydrogen bonding.

High Specific Heat Capacity

Water can absorb a lot of heat before its temperature rises significantly.

Expansion upon Freezing

Water expands as it freezes, which is why ice floats.

High Boiling Point

Water has a high boiling point relative to other molecules of similar size.

High Heat of Vaporization

It takes a lot of energy to turn liquid water into steam.

Universal Solvent

Water is often called the "universal solvent" because it can dissolve many substances.

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