



## HARDNESS OF WATER

Water is a transparent, odorless, tasteless liquid that is essential for all known forms of life. Chemically, it is composed of two hydrogen atoms and one oxygen atom, giving it the formula  $\text{H}_2\text{O}$ . Covering about 71% of the Earth's surface, water exists in three primary states: solid (ice), liquid, and gas (water vapor).

Water plays a vital role in nature and human life. It supports ecosystems, regulates climate, and is crucial for agriculture, industry, and domestic use. Humans need water not only to drink but also for hygiene, sanitation, and food production.

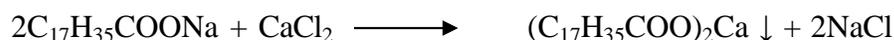
Despite its abundance, clean, drinkable water is a limited resource in many parts of the world, highlighting the importance of water conservation and sustainable management.

### Hardness

The property of water which prevents it from lathering.

### Hard water & Soft water

Water which does not produce lather with soap solution but produces white precipitate is called hard water and which produces lather readily with soap solution are called soft water.



White precipitate



White precipitate