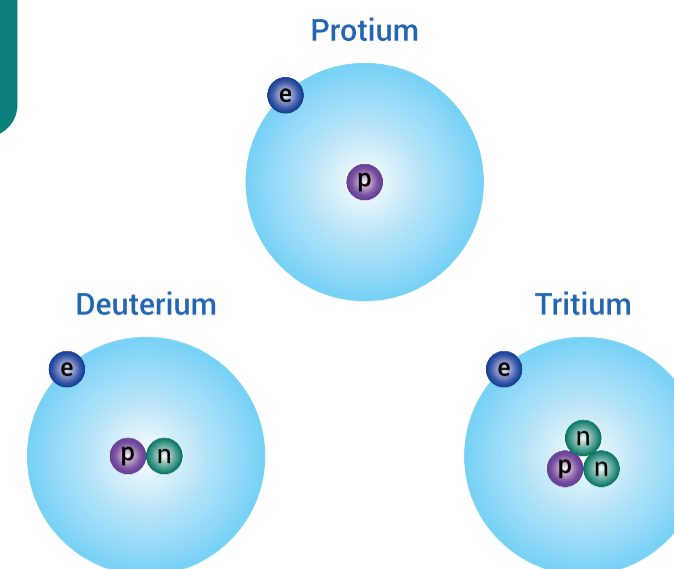


HYDROGEN

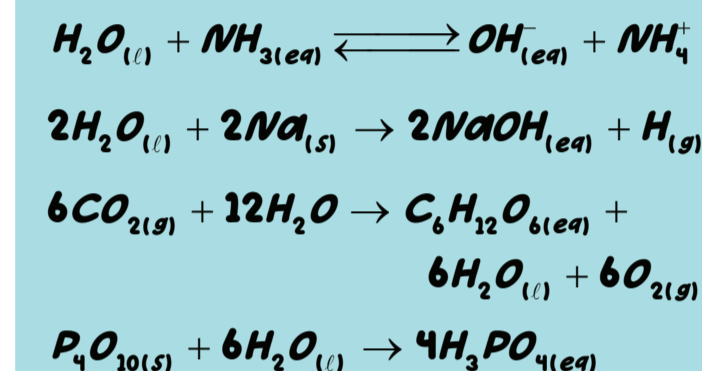
ISOTOPES OF HYDROGEN



HEAVY WATER H_2O

- Preparation: By enchanting electrolysis of water.
- Uses: AS a moderator in nuclear reactors in exchange reactions for the study of reaction mechanisms.

CHEMICAL PROPERTIES



PHYSICAL PROPERTIES

- Colourless and tasteless
- High freezing point, B.P. high heat of vaporization, high heat of fusion

USES

- Synthesis of ammonia
- Manufacture of vanaspathi fat
- Preparation of HCl
- If fuel cells
- AS a rocket fuel

PHYSICAL PROPERTIES

- Colourless
- Odorless
- Lighter than air
- Insoluble in water
- Tasteless
- Combustible

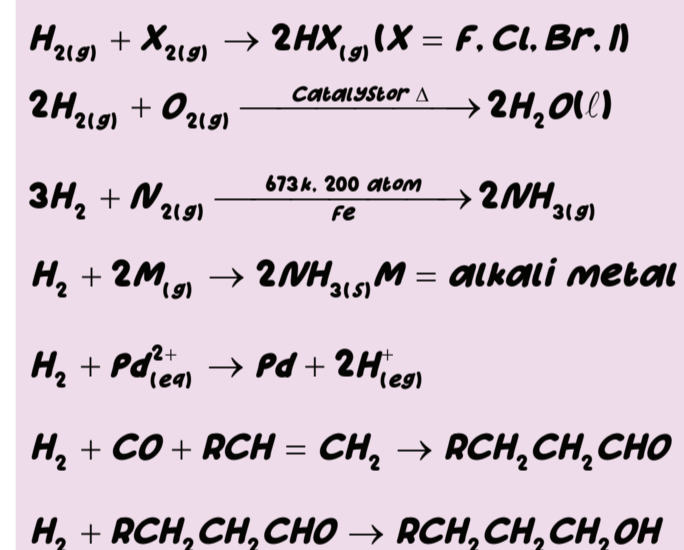
OCCURENCE

Lightest Element in the periodic table

If exists as diatomic gas (H_2) at STP.

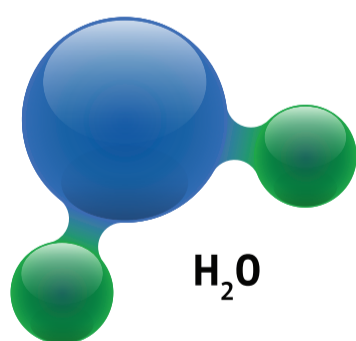
Most abundant Element

CHEMICAL PROPERTIES



ICONIC

- Stoichiometric compounds of dihydrogen formed with s block element
- Also known as saline hydrides



TYPES OF HYDRIDES

COVALENT

- Formation of molecular compounds from dihydrogen & block elements
- Also known as molecular hydrides

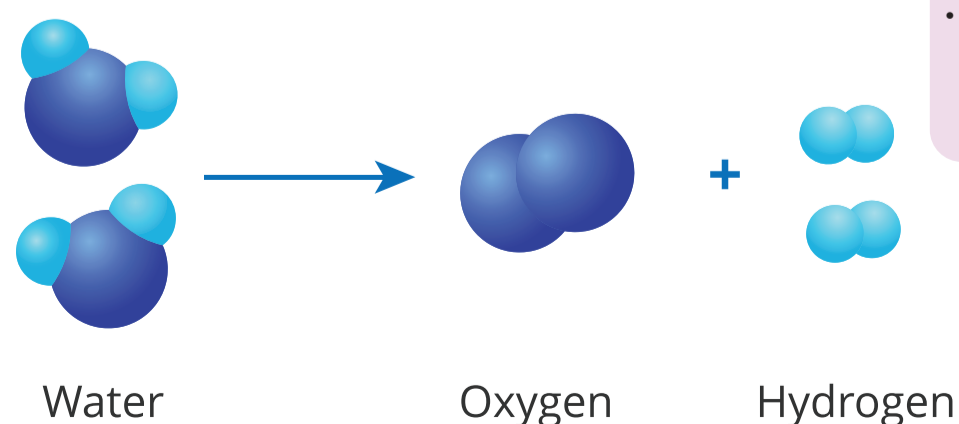
METALLIC

- Formed by d & f block elements
- Also known as non-stoichiometric or interstitial hydrides



HYDROGEN ECONOMY

- Use of Hydrogen as alternate source of energy
- Non polluting

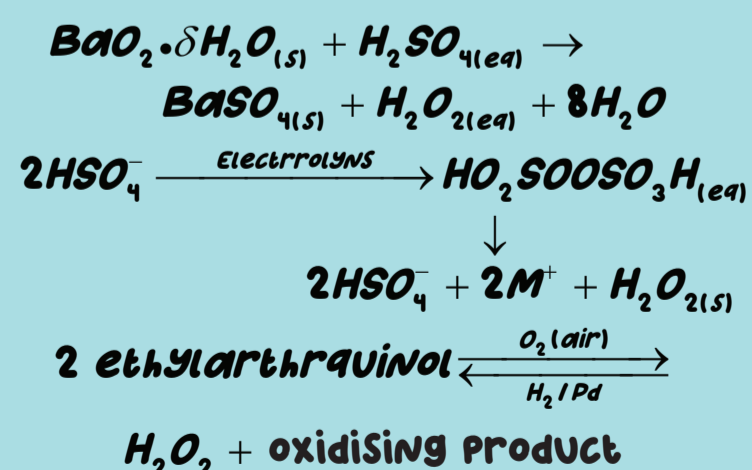


WATER H_2O

COMPOUNDS

HYDROGEN PEROXIDE H_2O_2

PREPARATION



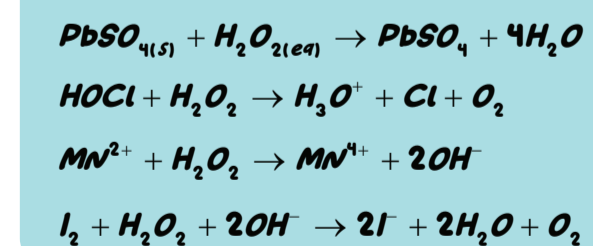
PHYSICAL PROPERTIES

- Colourless (very pale blue)
- Miscible with water

USES

- AS hair bleach, disinfectant
- Manufacture chemicals used in detergents
- In environmental chemistry

CHEMICAL PROPERTIES



SOFT WATER: water that produces sufficient lather with soap

HARD WATER: If forms an insoluble sum before it form lather with soap

Temporary hardness
Bicarbonates of Mg/Ca

Permanent hardness
Sulfates or Cl of Mg/Ca