

Name of atom	No. of atoms in the reactant	No. of atoms in the product
Iron	3	3
Hydrogen	8	8
Oxygen	4	4

After balancing, the above equation can be written as follows:
 $3\text{Fe} + 4\text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4\text{H}_2$.

To Make Equations More Informative

Writing the symbols of physical states of substances in a chemical equation:

By writing the physical states of substances, a chemical equation becomes more informative.

- Gaseous state is represented by symbol (g).
- Liquid state is represented by symbol (l).
- Solid state is written by symbol (s).
- Aqueous solution is written by symbol (aq).
- Writing the condition in which reaction takes place: The condition is generally written above and/or below the arrow of a chemical equation.

Thus, by writing the symbols of the physical state of substances and condition under which reaction takes place, a chemical equation can be made more informative.

What are the types of a chemical reaction?

Types of Chemical Reactions: Combination Reaction, Decomposition Reaction, Displacement Reaction, Double Displacement Reaction, Neutralization Reactions, Exothermic – Endothermic Reactions and Oxidation-Reduction Reactions.

Rancidity: The taste and odour of food materials containing fat and oil changes when they are left exposed to air for a long time. This is called Rancidity. It is caused due to the oxidation of fat and oil present in food materials.

Methods to prevent rancidity:

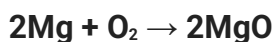
- By adding anti-oxidant.
- Vacuum packing.
- Replacing air by nitrogen.
- Refrigeration of foodstuff.

1. Chemical Reaction: During chemical reactions, the chemical composition of substances changes or new substances are formed.

2. Chemical Equation: Chemical reactions can be written in chemical equation form which should always be balanced.

3. Types of Chemical Reactions:

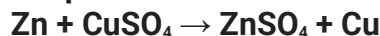
Combination reaction: A single product is formed from two or more reactants.



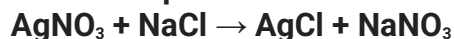
decomposition reaction: A single reactant breaks down to yield two or more products

- Thermal decomposition: $2\text{Pb}(\text{NO}_2)_2 \rightarrow 2\text{PbO} + 4\text{NO}_2 + \text{O}_2$
- Electrolysis: $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$
- Photochemical reaction: $2\text{AgBr} \rightarrow 2\text{Ag} + \text{Br}_2$

Displacement reaction: One element is displaced by another element.



Double displacement reaction: Exchange of ions between reactants.



Decomposition reaction: A single reactant breaks down to yield two or more products.

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