

Name of acid	Found in
Acetic acid	Vinegar
Formic acid	Ant's sting
Citric acid	Citrus fruits such as oranges, lemons, etc.
Lactic acid	Curd
Oxalic acid	Spinach
Ascorbic acid (Vitamin C)	<i>Amla</i> , Citrus fruits
Tartaric acid	Tamarind, grapes, unripe mangoes, etc.

Name of base	Found in
Calcium hydroxide	Lime water
Ammonium hydroxide	Window cleaner
Sodium hydroxide/ Potassium hydroxide	Soap
Magnesium hydroxide	Milk of magnesia

INDICATORS

- Special type of substances are used to test whether a substance is acidic or basic. These substances are known as indicators.

The indicators change their colour when added to a solution containing an acidic or a basic substance.

Turmeric, litmus, China rose petals (Gudhal), etc., are some of the naturally occurring indicators.



LITMUS :- A natural die

- *The most commonly used natural indicator is litmus. It is extracted from lichens.*
- *It has a mauve (purple) colour in distilled water i.e. in neutral substance.*
- *When added to an acidic solution, it turns red and when added to a basic solution, it turns blue. It is available in the form of a solution, or in the form of strips or in the form of papers as blue and red litmus paper.*

Turmeric as natural indicator

- Take some turmeric powder and add some water to make it in a paste.
- Now when this paste is added to a basic solution the turmeric paste will turn it to red color solution.

Q. Using turmeric powder check which solution is acidic ,basic and neutral ?

- *Take the all solutions in different test tubes
Now add turmeric paste in all the solutions*
- *This paste will turn neutral and acidic solution yellow that is it will not show any effect on both the solution and will turn the basic solution red.*
- *Now take this basic solution and add it to other two solutions the solution that changes its color to red is neutral solution as on adding basic solution to neutral solution this solution will become basic. however acidic solution show neutralisation on addition of basic solution .*

acidic solution show neutralisation on addition of basic solution .

Neutralisation

- *When an acid solution and a base solution are mixed in suitable amounts, both the acidic nature of the acid and the basic nature of the base are destroyed. The resulting solution is neither acidic nor basic and this reaction between acid and base is known as neutralisation.*
- *Salt and water produced in this reaction with evolution of heat.*

• **Acid+Base → Salt+Water**

(Heat is evolved)

Show the reaction of hcl and nacl.



Soil treatment

- Excessive use of chemical fertilisers makes the soil acidic.
- Plants do not grow well when the soil is either too acidic or too basic.
- When the soil is too acidic, it is treated with bases like quick lime (calcium oxide) or slaked lime (calcium hydroxide).
- If the soil is basic, organic matter (compost) is added to it. Organic matter releases acids which neutralises the basic nature of the soil.

FACTORY WASTE

- *The wastes of many factories contain acids.*
- *If they are allowed to flow into the water bodies, the acids will kill fish and other organisms.*
- *The factory wastes are, therefore, neutralised by adding basic substances.*