
#636774

State differences between acids and bases?

Solution

Acids	Bases
i) Acids are sour in taste	i) Bases are bitter in taste
ii) Acid turns blue litmus to red	ii) Bases turn red litmus to red
iii) Acid is a substance which contains hydrogen ion H^+	iii) Bases are substances which contain hydroxyl ion OH^-

#636776

Ammonia is found in many household products, such as window cleaners. It turns red litmus into blue. What is its nature?

Solution

Base turns red litmus paper blue.

Ammonia is also a base, thus it turns red litmus into blue.

#636777

Name the source from which litmus solution is obtained. What is the use of this solution?

Solution

Litmus solution is extracted from lichens. It is used to determine whether the given solution is acidic or basic.

#636778

Is the distilled water acidic/ basic/ neutral? How would you verify it?

Solution

Distilled water will be neutral. We can verify it by showing that neither blue nor red litmus paper changes its color when dipped in it.

#636779

Describe the process of neutralization with the help of an example.

Solution

The reaction between an acid and a base is known as neutralization. Salt and water are produced in this process with the evolution of heat.

Antacids like milk of magnesia(magnesium hydroxide), baking soda, etc. which contain a base are used for reducing acidity in stomach when excessive acid released by glands.

#636780

Nitric acid turns red litmus blue.

A True

B False

Solution

Acid turns blue litmus red.

Nitric acid is an acid, thus it turns blue litmus into the red.

#636781

Sodium hydroxide turns blue litmus red.

A True

B False

Solution

Sodium hydroxide is a base.

The base turns red litmus into the blue. Thus Sodium hydroxide turns red litmus into the blue.

#636782

Sodium hydroxide and hydrochloric acid neutralise each other and form salt and water.

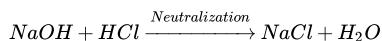
A True

B False

Solution

When acid and base react with each other they undergo neutralization reaction to form salt and water.

Sodium hydroxide is a base and hydrochloric acid is an acid. Thus when they react together they undergo neutralization reaction to form salt and water.



#636783

Indicator is a substance which shows different colors in acidic and basic solutions.

A True

B False

Solution

Indicator shows different colour in acidic and basic medium.

Example: Litmus paper is an indicator. Acid turns blue litmus into red while base turns red litmus into blue.

#636784

Tooth decay is caused by the presence of a base.

A True

B False

Solution

Tooth decay is caused by the presence of an acid.

Sugar component in the mouth is eaten up by a bacteria and thus produces an acidic compound.

This acid affects the tooth enamel and produces plaque which is a primary cause of tooth decay.

#636785

Dorji has a few bottles of soft drink in his restaurant. But, unfortunately, these are not labelled. He has to serve the drinks on the demand of customers. One customer wants acidic drink, another wants basic and third one wants neutral drink. How will Dorji decide which drink is to be served to whom?

Solution

Dorji can decide with the help of litmus paper.

(i) The drink which would turn a red litmus to blue would be basic.

(ii) If the drink turns a blue litmus to red would be acidic.

(iii) The drink which would not affect both red and blue litmus would be neutral.

#636786

Explain why:

- (a) An antacid tablet is taken when you suffer from acidity.
- (b) Calamine solution is applied on the skin when an ant bites.
- (c) Factory waste is neutralised before disposing it into the water bodies.

Solution

- (a) We take an antacid such as milk of magnesia to neutralises the excessive acid released in stomach.
- (b) Ant injects an acidic liquid(Formic acid) into the skin on biting which causes inflammation, to the skin. The effect of the acid can be neutralised by rubbing. Calamine solution which contains zinc carbonate which is very weak base and causes no harm to the skin.
- (c) The waste of factories contain acids. If acids are disposed off in the water body, the acids will harm the organisms. So factory wastes are neutralised by adding basic substances.

#636787

Three liquids are given to you. One is hydrochloric acid, another is sodium hydroxide and third is a sugar solution. How will you identify them? You have only tumeric indicator.

Solution

Name of the substances effect on turmeric indicator.

- 1. Hydrochloric acid Yellow to blue.
- 2. Sodium hydroxide Yellow to red.
- 3. Sugar solution No change.

#636788

Blue litmus paper is dipped in a solution. It remains blue. What is the nature of the solution? Explain.

Solution

- (i) It can be identified on the basis of the following observations: Bases change the colour of litmus paper to blue. As the color of blue litmus paper is not affected, the solution must be basic.
- (ii) If the solution is neutral, even then color of litmus will not change.

#636789

Consider the following statements.

- (A) Both acids and bases change color of all indicators.
- (B) If an indicator gives a color change with an acid, it does not give a change with a base.
- (C) If an indicator changes color with a base, it does not change color with an acid.
- (D) Change of color in an acid and a base depends on the type of the indicator.

Which of these statements are correct?

- A *All four*
- B *A and D*
- C *B C and D*
- D *Only D*

Solution

Some indicators cannot change colour for both acid and bases.

- 1. It is an indicator gives colour change for acid, it can give a colour change for base.
- 2. The colour change depends on type of indicator.