Liquids Conduct Electricity

Good Conductors:

The materials, which allow the electric current to pass through them easily are called good conductors of electricity.

Bad Conductors:

The materials, which do not allow the electric current to pass through them easily are called bad conductors of electricity.

Liquid conducts electricity:

A liquid that conducts electricity is called an electrolyte. They are mostly solutions of acids, bases and salts in water.

Example: Choose which of the following is not a good conductor of electricity?

1. Orange juice
2. Distilled water
3. Sodium hydroxide solution

Solution: The correct option is (2) Distilled water.

Sweet lime and orange juice are acidic in nature whereas sodium hydroxide (NaOH) is basic in nature. Therefore, they are good conductors of electricity whereas distilled water is not a good conductor because distilled water is free of salts. Hence, it is a poor conductor of electricity.

Distilled water can conduct electricity when some salt is added to it.

Non-conducting liquid starts conducting when salt, acid or base is added to the solution.

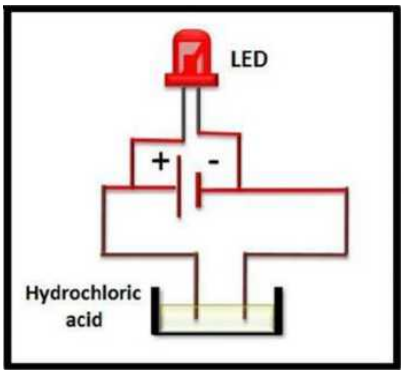
Some examples of conducting liquids: Lemon juice, orange juice, sodium hydroxide solution, milk, salt solution, seawater, tap water, Vinegar.

Some examples of non-conducting liquids: Sugar solution, distilled water, honey, kerosene oil, vegetable oil.

While reasoning about why any liquid conduct or does not conduct electricity must mention the reason that ions are present or not present in the liquid respectively.

Tester:

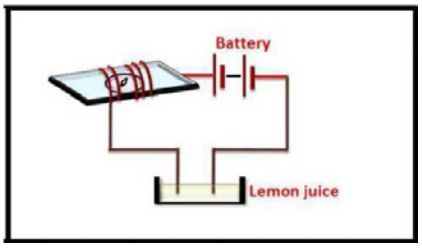
1) LED as a tester: LED (Light-emitting diode) is used in place of a bulb for detecting whether a weak electric current is conducting through a liquid or not. It is based on the heating effect of electric current.



The longer lead of the LED is connected to the positive terminal of the battery and the shorter lead is connected to the negative terminal.

Remember bulb is used as a tester when a strong current is passing through the circuit and LED is used when a weak current is passing through the circuit.

2) Compass as a tester: This tester is based on the magnetic effect ofWhen a weak or strong electric current conducts through the liquid in the circuit shown the magnetic needle of the compass show deflection.



This is used to detect whether the given liquid conduct electricity or not.