## **EXPERIMENT - 2**

# **ELECTRO PLATING**

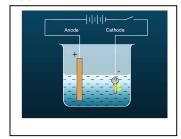
**Aim** : Coating an iron key with copper by electro plating method.

**Required**: Small beaker, Electric wires, 6V or 9V battery, Metallic clips-2, Distilled water,

Copper sulphate crystals, Iron key, Sulphuric acid, Copper plates-2 (5 x 2 cm size)

<u>Description</u>: If electricity passes through copper sulphate solution, it forms copper and sulphate

ions. Thus copper metal is coated on iron key. This is electro plating method.





## Procedure:

- 1. Prepare copper sulphate aqueous solution by adding copper sulphate and distilled water in beaker.
- 2. Add small amount of Sulphuric acid in it.
- 3. Attach electric wires to 9V battery.
- 4. Hold the free ends of electric wires on both sides by using metallic clips.
- 5. Connect a copper plate to one clip (Positive electrode) and iron key to another clip (Negative electrode).
- 6. Keep copper plate and iron key in copper sulphate solution. (Copper plate and iron key do not touch with each other.)
- 7. Allow the flow of current through the solution for 10 Minutes.
- 8. Note down the observation.

### **Observations:**

- We observe small air babools formed in solution.
- A brown colour (Copper metal) is coated on iron key.
- The amount of brown coating is increased with increase of time of flow of current through the solution.

#### **Precautions:**

- No oil or grease is stick on the key. Rub the key with a sand paper before experiment.
- Acid is used to increase the conductivity of solution. So add acid slowly as it is danger.

**Result:** Observed the coating an iron key with copper by electro plating method.

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