

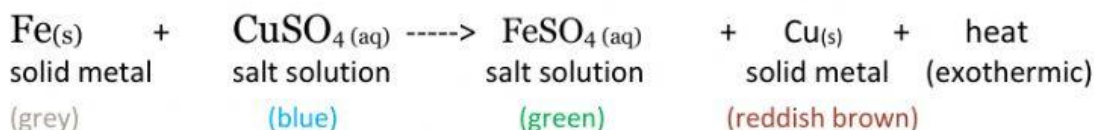


Name:..... Class:..... No.

Chemical Reaction Between Iron and Copper Sulphate $\text{Fe} + \text{CuSO}_4$

(ปฏิกิริยาเคมีระหว่างเหล็กกับคอปเปอร์ซัลเฟต)

The chemical equation when Iron and Copper Sulphate is



Fe = iron (nail) is a metal

Cu = copper is a metal

CuSO_4 = copper sulphate (blue vitriol)

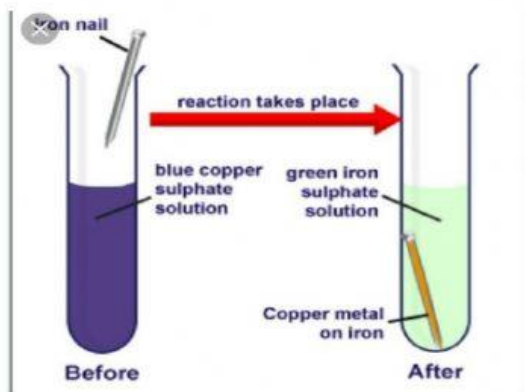
FeSO_4 = iron sulphate (ferrous sulphate)

(s) = solid substance

(aq) = aqueous solution (a solution where solvent is water)

THEORY (ทฤษฎี)

Iron (Fe) is more reactive than Copper (Cu) so iron will displace copper in copper sulphate (CuSO_4) and produce iron sulphate (FeSO_4) and copper (Cu)



potassium	most reactive	K
sodium		Na
calcium		Ca
magnesium		Mg
aluminium		Al
carbon		C
zinc		Zn
iron		Fe
tin		Sn
lead		Pb
hydrogen		H
copper		Cu
silver		Ag
gold		Au
platinum	least reactive	Pt

Tick the correct answer.

1. The reaction of iron (Fe) and copper sulphate (CuSO_4) solution produces iron sulphate and _____.
a. iron
b. copper sulphate
c. iron sulphate
d. copper
2. Which is a metal?
a. iron only
b. both iron and copper
c. copper only
d. none of the choices
3. What is the color of the copper sulphate (CuSO_4) solution?
a. green
b. grey
c. blue
d. reddish brown
4. What is the color of the iron (Fe) nail before it was dipped in copper sulphate (CuSO_4) solution?
a. green
b. blue
c. grey
d. reddish brown
5. What is the color of iron sulphate (FeSO_4) solution?
a. green
b. brown
c. blue
d. reddish brown
6. What is the color of copper (Cu)?
a. green
b. brown
c. blue
d. reddish brown
7. What are the reactants in chemical reaction between iron (Fe) and copper sulphate (CuSO_4) solution?
a. iron and copper sulphate
b. iron sulphate and copper sulphate
c. iron and copper
d. copper and iron sulphate
8. What are the products in chemical reaction between iron (Fe) and copper sulphate (CuSO_4) solution?
a. iron and copper sulphate
b. iron sulphate and copper sulphate
c. iron and copper
d. copper and iron sulphate

9. What is the **reddish brown** substance deposited on the nail?
- a. iron sulphate
 - b. copper
 - c. iron
 - d. copper sulphate
10. What is the **green solution** formed in the reaction between iron (Fe) nail and copper sulphate (CuSO_4) solution?
- a. copper
 - b. iron
 - c. iron sulphate
 - d. copper sulphate
11. What substance was displaced in chemical reaction between iron and copper sulphate solution?
- a. copper
 - b. iron
 - c. iron sulphate
 - d. copper sulphate
12. Which element is more reactive, iron (Fe) or copper (Cu)?
- a. copper is more reactive
 - b. iron is more reactive
 - c. both have the same reactivity
 - d. none of the above
13. What type of reaction is the chemical reaction between iron (Fe) and copper sulphate solution?
- a. endothermic reaction
 - b. exothermic reaction
 - c. neutral reaction
 - d. no temperature change
14. What characteristic of chemical reaction was **not observed** when the iron nail was dipped into copper sulphate solution?
- a. new substances were formed
 - b. change in color
 - c. gas was formed
 - d. change in temperature
15. Why did the **blue copper sulphate** changes **green color**?
- a. Because the solution is now iron sulphate.
 - b. Because of the presence of copper.
 - c. Because of the precipitate.
 - d. Because there was a gas formed.
16. Why did copper was displaced by iron in the sulphate solution?
- a. Because copper is more reactive than iron.
 - b. Because iron is more reactive than copper.
 - c. Because both iron and copper are reactive.
 - d. Because both iron and copper are not reactive.