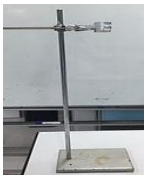
Types of reactions II

WHAT IS THE AIM OF THIS PRACTICAL?

To learn to identify different types of reactions.

WHAT DO YOU NEED?

Materials:

Test tube stand	Test tubes (2)	thread	Lab. stand with clamp
			
Measuring cylinder	**beaker**	**sandpaper**	**iron nails (2)**

Chemicals: Copper sulphate solution and distilled water.

A BIT OF THEORY

As for the reactivity series, the more reactive metals displace the less reactive metals. When iron is compared with copper, it is placed above copper in activity series. Therefore the metals placed above are more reactive whereas the metals placed below are less reactive.

When iron nails are placed in $CuSO_4$ iron displaces copper from copper sulphate to form ferrous sulphate. The iron nails get deposited with a brownish red substance of the copper metal. The reaction is as follows:

$$Fe(s) + CuSO_4(aq) \rightarrow FeSO_4(aq) + Cu(s)$$

WHAT DO YOU HAVE TO DO?

1) Wash two test tube with distilled water and dry them.
2) Label the test tubes as A and B.
3) Add 20 mL of distilled water in the test tube and mix copper sulphate crystals in A.
4) Transfer 10 ml of solution from A to B.
5) Take two iron nails by cleaning them with sandpaper.
6) Take one iron nail and dip it in the $CuSO_4$ in test tube A for 15 minutes.
7) Take another iron nail and dip it in the $CuSO_4$ in test tube B for 15 minutes.
8) Observe the intensity of the blue colour of $CuSO_4$ before and after the experiment performed in test tube A and B.
9) Record your results.

Experiment	Before experiment	After experiment
Colour of $CuSO_4$		
Colour of iron nails		

QUESTIONS

1) When iron nails are dipped in the copper sulphate solution the colour of the solution changes. Why? Copper is _____ reactive when compared to iron. Therefore iron has the ability to displace it from its salt solution.

2) What is the basic principle of this experiment? More reactive metals displace _____ reactive metals.

3) Can you name the metal that deposits reddish brown substance on the iron nails when dipped in $CuSO_4$?

4) What type of reaction is this?

FEED-BACK

Evaluate the difficulty of this practical. Circle the number that suits the level of difficulty you found while going through this practical:

Very Easy 1 2 3 4 5 *Very Difficult*

Did you enjoy going through this practical? Circle the number that suits your choice

Not at all 1 2 3 4 5 *Very much*