7.10.24

TENDER HEART HIGH SCHOOL, SEC-33B, CHD

CLASS- X
CHAPTER- 9

SUBJECT- CHEMISTRY
TEACHER- ANAMIKA

Good morning to all the students!

Students this lesson is of class - X for the subject of chemistry, Topic - 'Physical Properties of Ammonia' which is covered in chapter - 9 'Study of compounds B Ammonia' starting on page 156 of your text book titled - consise chemistry by Selina Publication and is being submitted to you on 7, October, 2024

All of you may now please open page number 156 of your notebook in front of you.

If all students are ready then let us start with the 'Physical Properties of Ammonia'

Physical Properties of Ammonia.

(1) Ammonia is colourless in nature.

(2) It has strong and pungent odour.

(3) It has slightly bitter (alkaline) in taste.

(4) It is non-poisonous in nature.

(5) Vapour density of ammonia = 8.5 (lighter than air)

(6) It is alkaline in nature.

(7) It is the gas which is easily liquefied at 10°C by compressing it at 6 atm. pressure.

(8) Liquid ammonia is boils at -33.5°C.

(9) Its freezing point is -77.7°C

(10) It is highly soluble in water, 1 vol. of water dissolves about 702 vols. of ammonia at 20°C and 1 atm. pressure

Next, continue with the another topic of this chapter which is:-

Fountain Experiment

To demonstrate the high solubility of ammonia gas in water

Before, starting this topic I just wants to remind you that for any experiment to perform we need apparatus.

So, here we will discuss about the Apparatus for this experiment.

Apparatus:-

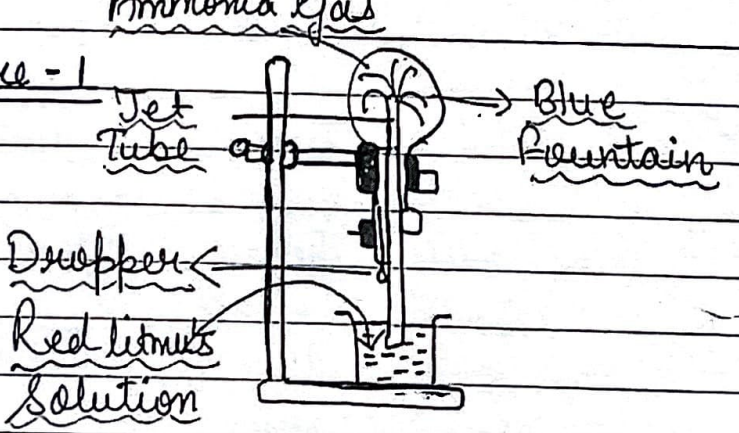
(1) A round bottomed flask which is filled with ammonia gas.

(2) Mouth of the flask is fitted with a rubber stopper with two holes, one for jet tube and the other for a dropper containing water.

(3) A trough containing red litmus solution.

(4) A retort stand is used to fix the round bottomed flask in inverted position as shown in Figure - 1 on page no. 3 of the notes which is sent on 17th October, 2022.

Figure - 1



Fountain experiment

Now, let us do procedure of this experiment

Procedure :-

(1) Water containing by dropper is squeezed.

(2) If we add few drops of water into the flask, ammonia gas present in the flask gets

dissolved in water due to its high solubility. Through this a partial vacuum will create in the flask.

(3) Since, outside pressure is higher, the red litmus solution which is present in beaker and get rushes up through the jet tube and emerges as a blue fountain.

(4) Ammonia gas is being basic, in nature and changes red litmus solution to blue.

Students note it,

A bottle of liquor ammonia should be opened very carefully, only after cooling it in ice or cold water. There is high pressure inside the bottle of ammonia and on cooling, the pressure drops. This prevents sudden flushing out of the gas.

Now, I will ask you three a very short questions from this chapter. You will get a three minutes break to write the answers.

The Questions are :-

Q1 What is the vapour density of ammonia?

Q2 Name the two chemical substances which are used for fountain experiment.

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Q3 Ammonia gas is being basic in nature and changes ____ litmus solution to ____

I hope you all have written the answers by now. Let us check the answers now.

Ans1 The vapour density of ammonia is 8.5

Ans2 Red litmus solution and ammonia gas.

Ans3 Red to blue.

Students, Now I am ending the today's lesson by giving instructions and homework.

INSTRUCTIONS :-

You all are required to read the lesson again and then read the topics which we have covered today by given notes which is sent on 17th October, 2022.

(P.T.O)