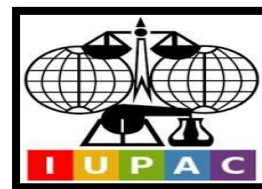


National Institute of Open Schooling
Senior Secondary Course: Chemistry
Chapter-23 (Nomenclature and General Principles)
Worksheet-23

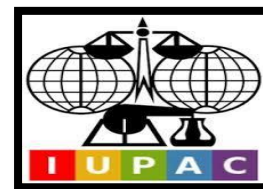


1. Three students Vaibhav, Vishal and Vikas were determining the elements present in a given organic compound by Lassaigne's test. Vaibhav added FeSO_4 and dil. H_2SO_4 acid to Na- extract and observed Prussian blue colour. Vishal was keeping some pieces of sodium metal in his pocket, Vikas asked him not to do so. Now answer the following questions.
 - (a) Name the element present in the organic compound.
 - (b) Write the test for chlorine
 - (c) Write the value associated.

2. An organic compound on heating changes directly into vapours without undergoing into liquid state, it is insoluble in water and is commonly used to prevent clothes against moths. It is contaminated with cinnamaldehyde. Naresh, a student of class XI was asked by his teacher how to purify it. Now answer the following questions
 - (a) Which method of purification would Naresh apply?
 - (b) Name the compound and write its another use.
 - (c) Write the value associated with this.

3. Carbon shows a unique property to form a large number of organic compounds. Even towards the end of 19th century the number of organic compounds known was difficult to remember by their common names. In order to systematise the naming of organic compounds IUPAC system of nomenclature was first introduced in 1947 and is modified from time to time. Based on these facts now answer the following questions:
 - (a) Name the property of carbon to link itself to form a large number of compounds.
 - (b) Write the IUPAC name of $\text{CH}_3\text{CH}=\text{CH}-\text{CH}(\text{Br})\text{CH}_3$ and trivial name of $\text{CH}_3-\text{C}(\text{CH}_3)_2-\text{CH}_3$.
 - (c) Write the value associated with property of carbon.

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4. What is meant by hybridisation? Compound $\text{CH}_2 = \text{C} = \text{CH}_2$ contains sp or sp^2 hybridised carbon atoms. Will it be a planar molecule?
5. Benzoic acid is an organic compound. Its crude sample can be purified by crystallization from hot water. What characteristic differences in the properties of benzoic acid and the impurity make this process of purification suitable?
6. Two liquids (A) and (B) can be separated by the method of fractional distillation. The boiling point of liquid (A) is less than boiling point of liquid (B). Which of the liquids do you expect to come out first in the distillate? Explain.
7. You have a mixture of three liquids A, B and C. There is a large difference in the boiling points of A and rest of the two liquids i.e., B and C. Boiling point of liquids B and C are quite close. Liquid A boils at a higher temperature than B and C and boiling point of B is lower than C. How will you separate the components of the mixture? Draw a diagram showing set up of the apparatus for the process.
8. Draw a diagram of bubble plate type fractionating column. When do we require such type of a column for separating two liquids? Explain the principle involved in the separation of components of a mixture of liquids by using fractionating column. What industrial applications does this process have?
9. A liquid X with high boiling point decomposes on simple distillation but it can be steam distilled for its purification. Explain how Steam distillation of this liquid can be done?
10. By mistake, an alcohol (boiling point 97°C) was mixed with a hydrocarbon (boiling point 68°C). Suggest a suitable method to separate the two compounds. Explain the reason for your choice.