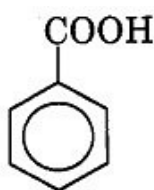


To purify impure sample of benzoic acid by the process of crystallisation.

Theory

Benzoic acid is a crystalline solid that has moderate solubility in hot water and low solubility in cold water. Its structure is :



Benzoic acid is recrystallised by dissolving it in hot water.

Requirements

Crude sample of benzoic acid, 250 ml beakers (two), funnel, a policeman and a trough.

Procedure

1. **Preparation of Solution.** Take about 150 ml of water in a 250 ml beaker and keep it for boiling using tripod stand and wire gauze. In another 250 ml beaker take 2-3 gm of the crude sample of benzoic acid and add gradually with stirring minimum quantity of boiling water just sufficient to dissolve benzoic acid. Heating can be done if required.
2. **Filtration of the Solution.** Filter the hot solution immediately using fluted filter paper placed in a funnel. Insoluble impurities are left on the filter paper.
3. **Cooling the Hot Saturated Solution.** Let the filtered solution come to room temperature by itself. Now cool it by placing in cold water trough.
4. **Separation of Crystals and Drying.** Separate the crystals by Alteration using fun-nel and filter paper. Wash the crystals with cold water. Transfer the crystals on another filter paper and dry them by pressing gently between the folds of a filter paper. Transfer the crystals to a dry test tube and cork it.

The crystals of benzoic acid are opaque white.