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**CHM313**

**Title: Melting point determination.**

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**Introduction:** A melting point is the temperature at which an organic compound starts to change from its solid state to a liquid state under heat. The melting point is a physical property that indicates compound’s purity; it may be an exact sharp point or a range.

**Aim:** The purpose of this experiment is to determine the melting point of two compounds, and then to determine the melting point of a mixture of these two compounds.

**Reagents:** Benzoin, salysilic acid and a mixture of both compounds.

**Instruments:** 3 capillary tubes, watch glass and a melting point apparatus.

**Procedure:** Transfer a small amount of salysilic acid and benzoin each in a watch glass separately, and in a third watch glass prepare a mixture of both compounds together. Fill each of the two compounds and the mixture in a capillary tube (approximately 1/3 of the tube) by tipping the tube on the watch glass. After filling the tubes, put the three of them in the melting point apparatus to observe the melting point of each.

**Data:**

|  |  |  |
| --- | --- | --- |
| **Name of compound** | **Start point** | **Finish point** |
| Benzoin | 132 C | 133 C |
| Salysilic acid | 156 C | 158 C |
| Mixture |  |  |

**Results:** Salysilic acid has a high melting point of 2 degrees range (156-158), and benzoin has a melting point range of 1 degree (132-133). However, the melting point range decreased after mixing both compounds together which indicates that different compounds will act as impurities to each other to decrease the melting point.