MELTING POINT AND BOILING POINT DETERMINATION

EXPERIMENTAL TECHNIQUES

Melting point determination (T 4), Boiling point determination (T 5)

OTHER DOCUMENTS:

Experimental procedure, Report template

INTRODUCTION

This primary objective of this experiment to learn the techniques for measuring the melting points of solids and the boiling points of liquids rather than trying to answer a question through an experiment. However, these techniques will be used to answer questions in later experiments in 351 and/or 353.

The determination of the physical properties of organic compounds (*e.g.* boiling / melting points, appearance, density, solubility, refractive index *etc.*) are important for characterising compounds and for establishing the identity of unknown materials by comparison with reported literature and / or other experimental values. The melting point and boiling point methods will be needed again in several more experiments in future 351 and 353 laboratory experiments where they will be integral parts of "bigger" activities (*e.g.* if you make a solid compound, you should record the melting point as a way of providing evidence that you made it, and for helping establish its purity).

In this experiment, you will be provided with pure samples of an unknown solid and an unknown liquid, and you are required to:

- observe and record the physical characteristics of each unknown
- measure the melting point of the unknown solid using an electric melting point apparatus
- measure the boiling point of a small amount of unknown pure liquid using a micro boiling point method