

**Practical 1 – Chapter 10****Alcohols****Safety**

- Most of the substances you will be using are flammable. You must exercise caution when heating them.
- Potassium dichromate is toxic if swallowed and very toxic if inhaled. Avoid contact with the skin.
- Concentrated sulfuric acid is corrosive.
- Wear eye protection.

**What to do**

- 1** Pour approximately 1 cm<sup>3</sup> of the alcohol into a boiling tube. Add approximately 0.5 cm<sup>3</sup> of potassium dichromate(VI) solution which must be **acidified** by adding approximately 0.5 cm<sup>3</sup> of dilute sulfuric acid. Heat the mixture in a water bath.

- a** What type of reagent is acidified potassium dichromate(VI)?

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- b** Draw the structures of the alcohols and the final products of the reaction in the table below.

Alcohol	Primary, secondary or tertiary?	Final product of reaction

- 2** Pour 1 cm<sup>3</sup> of a liquid alcohol into a boiling tube and add approximately the same amount of ethanoic acid. Add a few drops of concentrated sulfuric acid (**Care!**) and heat carefully in a water bath. Pour the resulting mixture into a beaker containing sodium carbonate solution and smell carefully.

**a** What is the name of the class of product formed?

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**b** What type of reaction is this?

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**c** What is the purpose of the concentrated sulfuric acid?

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Structure of alcohol	Structure of ethanoic acid	Describe the smell	Structure of organic product

- 3** Place approximately 1 g of salicylic acid and 5 cm<sup>3</sup> of methanol in a boiling tube. Add three drops of concentrated sulfuric acid (**Care!**) and heat in a water bath for about 15 minutes.

Describe the smell – what does it remind you of?