








A2 4.5/A

MAKING ESTERS



Aim You are going to make some esters.

Safety

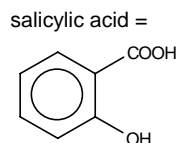
	sulphuric acid ethanoic acid		methanol		methanol ethanol pentan-1-ol		salicylic acid ethanol		Do not place the open beaker in front of your face
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Method

For each ester:

- 1) Place a few cm³ of the alcohol in a boiling tube.
- 2) Cautiously add a few cm³ (or a couple of spatula loads) of the carboxylic acid to the boiling tube.
- 3) Cautiously add 2 cm³ of concentrated sulphuric acid to the boiling tube.
- 4) After the reaction has subsided, pour the contents of the boiling tube into a beaker half filled with water.
- 5) Cautiously waft the aroma of the beaker towards your nose (do **not** put the open top of the beaker in front of your face).
- 6) Dispose of the esters down the fume cupboard sink.

- Combination 1: ethanoic acid + pentan-1-ol
 Combination 2: ethanoic acid + ethanol
 Combination 3: salicylic acid + methanol



Questions

- 1) Write an equation for each reaction, showing the structure of all compounds.

ethanoic acid + pentan-1-ol

ethanoic acid + ethanol

salicylic acid + methanol

- 2) What was the role of the concentrated sulphuric acid?
- 3) Give three uses of esters.