

# Edexcel Chemistry IGCSE

## 4.43C - Esters

Prepare a sample of an ester such as ethyl ethanoate

**(chemistry only)**

Flashcards

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What 3 reagents are required to prepare ethyl ethanoate?



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Ethanoic acid

Ethanol

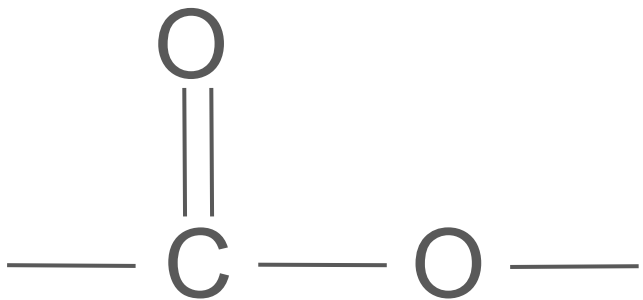
Sulfuric acid (catalyst)



# What is the functional group of an ester?



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Methanol reacts with propanoic acid in the presence of a sulfuric acid catalyst. What is the structural formula of each product?



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What technique is used to produce an ester from a carboxylic acid and an alcohol?





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Distillation



How can acids be removed from the impure ester?



How can acids be removed from the impure ester?

Add sodium carbonate until the mixture stops fizzing



How can ethanol be removed from the impure ester?



How can ethanol be removed from the impure ester?

Add calcium chloride



Describe how to carry out simple distillation to prepare an ester



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Heat the reactants (carboxylic acid and alcohol) in a round bottomed flask using a Bunsen burner.

The ester evaporates, cools in the condenser and is collected in a beaker.



How do you set up a condenser for simple distillation?





How do you set up a condenser for simple distillation?

Condenser should be horizontal with water in at the bottom and out at the top



When preparing an ester by distillation, how could you confirm that the solution collected is an ester?



When preparing an ester by distillation, how could you confirm that the solution collected is an ester?

The distillate can be smelt to check the ester has been formed as esters have pleasant and often fruity smells



What property of esters allows them to be collected by distillation?



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Esters have low boiling points so they are the first to evaporate from a reaction mixture

