

# Edexcel Chemistry GCSE

## CP 8 - Combustion of Alcohols

(Chemistry only)

Flashcards



# What is the functional group in alcohols?



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-OH



What are the molecular formulae of methanol, ethanol, propanol and butanol?



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Methanol -  $\text{CH}_3\text{O}$

Ethanol -  $\text{C}_2\text{H}_5\text{O}$

Propanol -  $\text{C}_3\text{H}_7\text{O}$

Butanol -  $\text{C}_4\text{H}_9\text{O}$



Describe an experiment to investigate  
the combustion of alcohols



## Describe an experiment to investigate the combustion of alcohols

Heat a copper can containing  $100\text{cm}^3$  water using a spirit burner

Record the temperature of the water and the mass of the spirit burner before and after the experiment

Repeat with different alcohols



Different alcohols in spirit burners are burnt to heat water in a copper can.  
What are possible errors in this experiment?



Different alcohols in spirit burners are burnt to heat water in a copper can. What are possible errors in this experiment?

Heat lost to surroundings

Not all flames are the same height from different spirit burners

Incomplete combustion

Evaporation of alcohols while weighing



What safety precautions should be taken when investigating the combustion of alcohols?



# What safety precautions should be taken when investigating the combustion of alcohols?

Light the wick of the spirit burner with a splint

Don't move a lit burner

Ensure the room is well ventilated

Tie back long hair

Don't leave flame unattended



When combusting alcohols to heat water, what is the effect on temperature change if the number of carbons in each alcohol molecule increases?



When combusting alcohols to heat water, what is the effect on temperature change if the number of carbons in each alcohol molecule increases?

More carbons in a molecule means a greater increase in temperature



How could you measure the temperature of the water more precisely than using a thermometer?



How could you measure the temperature of the water more precisely than using a thermometer?

Use a digital temperature probe to record temperatures to 2 decimal places



Different alcohols are being combusted to heat a copper can of water. State 3 factors which must be controlled to allow a fair comparison



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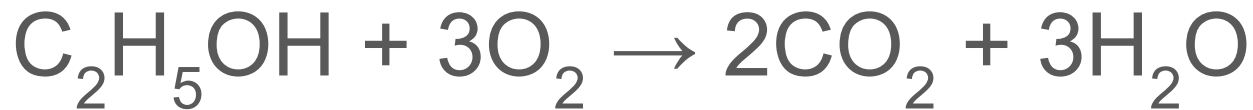
- Mass or volume of water
- Height of copper can above wick
- Height of flame
- Shape of copper container
- Number of moles of alcohol (higher only)



Write an chemical equation for the  
combustion of ethanol



Write an chemical equation for the combustion of ethanol



Or

