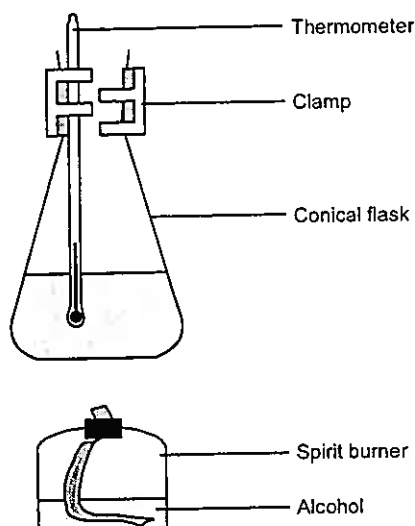


Comparing the heat energy produced by combustion of various alcohols

Introduction

The combustion of alcohol produces energy. This experiment compares the amount of heat produced by the combustion of various alcohols.



What to record

Alcohol	Initial temp/°C	Final temp/°C	Temp change/°C	Initial mass/g	Final mass/g	Mass used/g
Methanol						
Ethanol						
Propanol						
Butanol						

What to do

- Fill the conical flask with 100 cm³ of water. Clamp the flask at a suitable height so that the spirit burner can be easily placed below.
- Weigh the spirit burner (and lid) containing the alcohol and record the mass and name of the alcohol.
- Record the initial temperature of the water using the thermometer.
- Place the spirit burner under the conical flask and light the wick.
- Allow the alcohol to heat the water so the temperature rises by about 40 °C.
- Replace the cap to extinguish the flame.
- Reweigh the spirit burner and cap and work out the mass of alcohol used. Repeat for different alcohols. Use 100 cm³ of new cold water each time.

Safety

Wear eye protection. Do not open the spirit burner.

Question

- Which fuel provides the most energy per gram?