

# Combustion of Alkanes

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1.0.1

## Revision History

Revision	Date	Author(s)	Description
1.0.0	07.10.2016	Sam White	Initial Version.
1.0.1	10.10.2016	Sam White	Minor corrections to conclusions drawn.

## 1 Sequential Method

1. Put a few drops of the alkane onto a watch glass.
2. Ignite the alkane using a splint.

### 1.1 Diagram

N/A

### 1.2 Reasons for Method

- A watch glass is used to enable the combustion to be easily observable.
- A small volume of the alkane is used so that the combustion is more controlled and less likely to pose a safety risk.

### 1.3 Uncertainties in any Measurements

N/A

## 2 Results and Observations

The alkane burns with a yellow flame which is fairly sooty, however is less sooty than an alkene's flame.

### 2.1 Processed Results

N/A

### 2.2 Calculations

N/A

### 2.3 Uncertainty in Final Answer

N/A

## 3 Conclusions Drawn

The greater the ratio of Carbon:Hydrogen atoms the less clean the flame which is produced due to the greater amount of oxygen which is required to react per atom of the alkane in order for complete combustion to occur. Also the shorter the carbon chain the easier the alkane is to ignite since the volatility of the alkane will be greater due to the weaker London forces between the molecules of alkane which take less energy to be overcome.

## 4 Evaluation

### 4.1 Systematic Errors

N/A

### 4.2 Uncertainties

N/A