

**GCSE Chemistry B (Twenty First Century Science)**  
**J258/01** Breadth in Chemistry (Foundation Tier)

**Question Set 10**

Multiple Choice Questions

1

Some fractions from crude oil are cracked to give ethene, C<sub>2</sub>H<sub>4</sub>.

(a) Which homologous series is ethene a member of?

Tick (✓) **one** box.

Alcohols

Alkanes

Alkenes

Carboxylic acids

[1]

(b) Some fractions from crude oil are used as fuels.

Some fractions are used as a feedstock to make chemicals like ethene.

In the future, more crude oil will be used as a feedstock and less will be used as a fuel.

Give **two** reasons for this.

[2]

(c) Compound **A** is a hydrocarbon in crude oil.

This equation shows the ratio of carbon atoms to hydrogen atoms in some hydrocarbons.

$$\frac{\text{number of carbon atoms}}{\text{number of hydrogen atoms}} = \frac{1}{3}$$

(i) The empirical formula of compound **A** is CH<sub>3</sub>.

Does this formula agree with the equation?

Explain your answer.

[1]

(ii) Explain why CH<sub>3</sub> **cannot** be the molecular formula of compound **A**.

[1]

(iii) Another hydrocarbon has a formula which fits the equation.

The formula has two carbon atoms.

Draw a fully displayed formula for this hydrocarbon.

[1]

**Total Marks for Question Set 10: 6**

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