

## **GCSE Chemistry B (Twenty First Century Science)**

**J258/03** Breadth in chemistry (Higher Tier)

### **Question Set 3**

1 The table shows the properties of three polymers.

Polymer	Relative breaking strength	Flexibility	Temperature at which it softens (°C)
A	very high	fairly flexible	250
B	low	very flexible	70
C	fairly low	stiff	150

(a) A firm wants to make cups to hold boiling water.

Discuss the suitability of **each** polymer.

[3]

(b) Which of polymers **A**, **B** and **C**, has the **weakest** intermolecular forces?

Give a reason for your answer.

[2]

(c) Polymer **A** is an addition polymer.

Draw the structure of the monomer that forms polymer **A**.

Repeating unit of polymer A	Structure of monomer
$\left( \begin{array}{cc} \text{F} & \text{F} \\   &   \\ -\text{C} & -\text{C}- \\   &   \\ \text{F} & \text{F} \end{array} \right)_n$	

[1]

**Total Marks for Question Set 3: 6**

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