

Some Properties of Liquids

1. What is viscosity?

A measure of a liquid's resistance to flow.

2. What is surface tension

The energy required to increase the surface area of a liquid.

3. What is capillarity

The rising of a liquid through a narrow space against the gravitational pull.

4. Order the following from lowest to highest viscosity?

Dimethyl ether (CH_3OCH_3)

Ethylene glycol ($\text{CH}_2\text{OHCH}_2\text{OH}$)

Water (H_2O)

Ethanol ($\text{CH}_3\text{CH}_2\text{OH}$)

Acetone $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3\text{CCH}_3 \end{array}$

Acetone < dimethyl ether < ethanol < water < ethylene glycol

5. Explain why mercury has a convex meniscus when in a glass tube.

Because the cohesive forces are greater than the adhesive forces

6. Which has the smallest surface tension?

Dimethyl ether (CH_3OCH_3)

Ethylene glycol ($\text{CH}_2\text{OHCH}_2\text{OH}$)

Water (H_2O)

Ethanol ($\text{CH}_3\text{CH}_2\text{OH}$)

Acetone $\begin{array}{c} \text{O} \\ || \\ \text{CH}_3\text{CCH}_3 \end{array}$

acetone