

## Answer on Question #57309 - Chemistry - General Chemistry

### Question:

Which of the following pairs of liquids are likely to be not miscible?

Select one:

- A.  $\text{CH}_3\text{OH}$  and  $\text{H}_2\text{O}$
- B.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$  and  $\text{C}_6\text{H}_6$
- C.  $\text{CS}_2$  and  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$
- D.  $\text{CS}_2$  and  $\text{H}_2\text{O}$

### Answer:

The right answer is D, because these liquids have different polarities, namely,  $\text{CS}_2$  is non-polar and  $\text{H}_2\text{O}$  is highly polar solvent.

Regarding another alternatives, these pairs of solvents show similar polarities so that they are miscible:

- A.  $\text{CH}_3\text{OH}$  – polar,  $\text{H}_2\text{O}$  – polar.
- B.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$  – non-polar,  $\text{C}_6\text{H}_6$  – non-polar
- C.  $\text{CS}_2$  – non-polar,  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$  – non-polar.