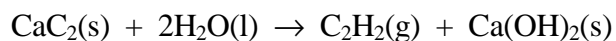


Marks
3

- Acetylene, C₂H₂, is an important fuel in welding. It is produced in the laboratory when calcium carbide, CaC₂, reacts with water:



For a sample of C₂H₂ collected over water, the total gas pressure was 748 mmHg and the volume was 543 mL. At the gas temperature (23 °C), the vapour pressure of water is 21 mmHg. What mass of acetylene was collected?

Answer:

The solubility of acetylene in water at 22.0 °C is small. If the temperature were raised, would you expect this solubility to increase or decrease?