

Challenge 1: Vapor pressure

The vapor pressure of water at 32 °C is 4.76 kPa. A glass of water is sealed in a container filled with air at 32 °C. After the water comes to equilibrium with the air in the container, the total pressure is 1.00 bar, there is 500. g of liquid water in the glass, and the volume of the container in addition to the glass and liquid water is 1.00 L.

Then 35.0 g of ethylene glycol if dissolved in the water.

Calculate change in the mass of the liquid water after it has returned to equilibrium.

Answer: The mass of liquid water will increase by **0.00673 g**

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