

4. A vessel holding some liquid is placed in a vacuum chamber that is constantly pumped. Gas leaks from the vessel into the vacuum through a small hole, radius $4.15 \mu\text{m}$, but the pressure inside the vessel remains 38.6 kPa . After a day the mass of the vessel has dropped from 100 g to 99.5 g . Assuming the container has at all times been at 70 K , suggest (with reasoning) the identity of the liquid.