3-b-2

A rigid container of volume 0.5 m^3 **contains** $1.0\,kg$ **of water at** $120\,^{\circ}C$ **(**$v_l = 0.00106\,m^3/kg$**,** $v_g = 0.8908\,m^3/kg$**). The state of water is:**

Answer: A mixture of saturated liquid and saturated vapor

$\vartheta = (Volume of water)/(mass of water) = 0.5/1 = 0.5 m3/kg$

Since specific volume of water lies between v_g and v_l at $T = 120\,^{\circ}C$, Therefore the state of water is wet state i.e. a mixture of saturated liquid and saturated vapor.