

- 14 A liquid is maintained at its boiling point by means of an electric heater. The constant rate at which the liquid boils away is measured for two different powers of the heater as shown.

| Power of heater | Rate of loss of mass of liquid |
|-----------------|--------------------------------|
| P_1 | m_1 |
| P_2 | m_2 |

For each power of the heater, P_1 or P_2 , the rate of heat loss h to the environment is the same.

Which expression is correct for the specific latent heat of vaporization of the liquid?

A $\frac{P_1}{m_1}$

B $\frac{1}{2} \left(\frac{P_1}{m_1} + \frac{P_2}{m_2} \right)$

C $\frac{P_1 - P_2}{m_1 - m_2}$

D $\frac{P_1 + P_2}{m_1 + m_2}$