



Latent Heat

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Generally when a body absorbs or evolves heat the temperature of the body changes.

For example when water is heated the temperature of water rises and reaches a constant value 100°C , after which it does not rise any further although a different change namely vaporization can be observed i.e. at that constant temperature change in state takes place, water goes from liquid state to the gaseous state and the heat absorbed by water is responsible for the change.

This heat energy which brings out a change in state is known as Latent heat.

(1) The change in state of a liquid substance can take place only at a particular temperature, which is constant for that substance known as melting point/freezing point, boiling point/condensation point.

(2) The latent heat per unit mass of the substance is known as latent heat capacity. Unit Joule/Kg

Depending on the nature of change we can define

(1) Latent heat capacity of fusion or solidification or freezing: The amount of heat required to change the state of unit mass of a solid to liquid at constant temperature at its melting point or vice versa is known as latent heat capacity of fusion or solidification.

(2) Latent heat capacity of evaporation or condensation: The amount of heat required to change the state of a unit mass of a liquid at constant temperature at its boiling point to the gaseous state or vice versa is known as the latent heat capacity of evaporation or condensation.