

Gibb's function

Gibb's function (G) $\rightarrow$ G (Gibb's function) is the energy liberated or absorbed in reversible process at constant pressure and constant temperature.

from the definition of enthalpy

$$H = U + PV$$

Change in enthalpy

$$dH = dU + d(PV)$$

$$dH = dU + PdV + VdP$$

$$= Tds - PdV + PdV + VdP$$

$$dH = Tds + VdP$$

If the process is isothermal

$$Tds = d(Ts)$$

$$dH = d(Ts) + VdP$$

$$dH - d(Ts) = VdP$$

$$d(H - Ts) = VdP$$

Here $H - Ts = G$ is known as G Gibb's function