Gibb's function

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

from the definition of enthalpy

$$H = U + dv$$

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 of Gibb's function