

$$\text{Specific internal energy } u = u(s, v) \quad \mathrm{d}u = \left(\frac{\partial u}{\partial s} \right)_v \mathrm{d}s + \left(\frac{\partial u}{\partial v} \right)_s \mathrm{d}v \quad \mathrm{d}u = T \mathrm{d}s - p \mathrm{d}v$$

$$\text{Specific enthalpy } h = h(s, p) \quad \mathrm{d}h = \left(\frac{\partial h}{\partial s} \right)_p \mathrm{d}s + \left(\frac{\partial h}{\partial p} \right)_s \mathrm{d}p \quad \mathrm{d}h = T \mathrm{d}s + v \mathrm{d}p$$

$$\text{Specific Helmholtz energy } f = f(T, v) \quad \mathrm{d}f = \left(\frac{\partial f}{\partial T} \right)_v \mathrm{d}T + \left(\frac{\partial f}{\partial v} \right)_T \mathrm{d}v \quad \mathrm{d}f = -s \mathrm{d}T - p \mathrm{d}v$$

$$\text{Specific Gibbs energy } g = g(p, T) \quad \mathrm{d}g = \left(\frac{\partial g}{\partial T} \right)_p \mathrm{d}T + \left(\frac{\partial g}{\partial p} \right)_T \mathrm{d}p \quad \mathrm{d}g = -s \mathrm{d}T + v \mathrm{d}p$$