

- Knudsen Number: $\lambda = \frac{k_B T}{\sqrt{2\pi} d^2 P}$, $K_n = \frac{\lambda}{L}$, $K_n \leq 0.01$ for continuum
- Rate of Shearing Strain: $\dot{\gamma} = \frac{d\beta}{dt} = \frac{du}{dy}$
- Shearing Stress: $\tau = \mu \dot{\gamma}$ for Newtonian Fluids
- Kinematic Viscosity: $\nu = \frac{\mu}{\rho}$
- Bulk Modulus: $E_v = -\frac{dp}{dV/V} = \frac{dp}{d\rho/\rho}$, Compressibility: $\kappa = \frac{1}{E_v}$
- Speed of Sound: $c = \sqrt{\frac{dp}{d\rho}} = \sqrt{\frac{E_v}{\rho}} = \sqrt{\gamma RT}$
- Excess Pressure: $p = \frac{2T}{R}$ for Soap: $p = \frac{4T}{R}$