Air = Molar Mass
78.7 % N₂
21.2 % O₂

44 g/mol (propane)
22.9 L

in a room of air will the propane rise or fall?

CH₄ (methane) or Natural Gas
16 g/mol
\[ d = \text{P Molar Mass} \]
\[ \frac{R \cdot T}{\text{mol}} \]
\[ d = 10.0 \text{ atm} \cdot 2.98 \text{ mol} \]
\[ 0.0821 \text{ L atm/mol K} \cdot 273.15 \text{ K} \]
\[ d = 1.29 \text{ g/L} \]
\[ d_{\text{CH}_4} = 10.0 \text{ atm} \cdot 16.05 \text{ g/mol} \]
\[ \frac{0.0821 \text{ L atm/mol K}}{273.15 \text{ K}} \]
\[ 0.72 \text{ g/L} \]
\( P_{\text{total}} = P_{\text{He}} + P_{\text{H}_2\text{O vapor}} \)

Total Pressure = Sum Pressure of all gases

\( d(\text{SF}_6) \) @ STP