

Methanol-Ethanol Mixture

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Solution: The mixture will begin to boil when the pressure is equal to the pressure of the “liquid line” calculated using Raoult’s law.

$$\begin{aligned}P_{tot} &= x_1P_1^* + x_2P_2^* \\P_{tot} &= 0.5(58) + 0.5(159) \\P_{tot} &= 108.5 \text{ Torr}\end{aligned}$$