

Question 4

The critical temperature (T_c) and critical pressure (P_c) of CO_2 are 30.98°C and 73atm respectively. Can $\text{CO}_2(\text{g})$ be liquefied at 32°C and 80atm pressure?

Solution:

CO_2 gas cannot be liquefied at a temperature which is greater than its critical temperature i.e. 30.98°C even by applying any pressure. So as the given temperature is 32°C by applying a pressure of 80atm the CO_2 gas cannot be liquefied.