

## LIQUEFACTION OF GASES

Gases can undergo liquefaction through either the application of high pressure or by cooling.

### Critical Parameters

**Critical Temperature:** This temperature represents the threshold above which a gas cannot be liquefied, regardless of the applied pressure.

The formula for critical temperature ( $T_c$ ) is given by  $T_c = \left(\frac{8a}{27Rb}\right)$ .

**Critical Pressure:** This parameter denotes the minimum pressure necessary to induce liquefaction at the critical temperature. The formula for critical pressure ( $P_c$ ) is expressed as  $P_c = \left(\frac{a}{27Rb^2}\right)$ .

**Critical Volume:** This parameter signifies the volume occupied by a gas at its critical temperature and critical pressure. The critical volume ( $V_c$ ) is determined by the formula  $V_c = 3b$ .