

Application of Ideal Gas Equation

If temperature, volume and pressure of a fixed amount of gas vary from T_1 , V_1 and p_1 to T_2 , V_2 and p_2 then we can write

$$\frac{p_1 V_1}{T_1} = nR \quad \text{and} \quad \frac{p_2 V_2}{T_2} = nR$$
$$\Rightarrow \frac{p_1 V_1}{T_1} = \frac{p_2 V_2}{T_2} \quad (5.19)$$

Equation (5.19) is a very useful equation. If out of six, values of five variables are known, the value of unknown variable can be calculated from the equation (5.19). This equation is also known as **Combined gas law**