

## **Graham's law :**

Graham's law, also known as Graham's law of effusion, was formulated by Scottish physical chemist Thomas Graham in 1848. Graham found experimentally that the rate of effusion of a gas is inversely proportional to the square root of the mass of its particles.

### **1- Graham's Law of Diffusion**

The rate at which gases diffuse is inversely proportional to the square root of their densities.

$$\text{Rate}_{\text{diffusion}} \propto \frac{1}{\sqrt{\text{density}}}$$

Since volumes of different gases contain the same number of particles, the number of moles per liter at a given T and P is constant. Therefore, the density of a gas is directly proportional to its molar mass (MM).