Answer on the question #49771, Chemistry, Physical Chemistry

Question:

what are the significance of 'a' and 'b' in van der waal's equation?

Answer:

The Van der Waals equation is:

$$\left(p + \frac{a}{v^2}\right)(v - b) = kT$$

where v is the volume of the container shared between each particle

k is the Boltzmann constant,

a is a measure of the attraction between the particles and is linked to the critical molecular volume and critical pressure of the gas ,

and b is the volume excluded by a mole of particles and is linked to the critical molecular volume.

Both these constants describe properties of real gases: interaction between atoms (molecules) and their finite size.