Classical Newtonian mechanics can be used to describe the properties of helium gas at standard conditions since the gas particles are relatively large compared to the scale of quantum effects.In other words, the gas particles must be sufficiently far apart for their individual identities to be distinguishable, and their motion can be described using classical statistical mechanics.Additionally, classical statistical mechanics assumes that the interactions between gas particles are pairwise and can be treated classically.The interactions between helium atoms in this regime are predominantly governed by classical interparticle forces, such as van der Waals forces.Classical mechanics treats particles as point masses and describes their motion using Newton's laws of motion.This condition ensures that the quantum effects, such as particle indistinguishability and quantization of energy levels, can be neglected.The main condition is that the thermal de Broglie wavelength of the gas particles should be much smaller than the average interparticle spacing.This assumption may break down at high densities or under extreme conditions where quantum effects or many-body interactions become significant.To .treat the gas with a classical partition function, certain conditions should be taken into account