

Comparison between Interatomic and Intermolecular Forces.

(1) Similarities

- (i) Both the forces are electrical in origin.
- (ii) Both the forces are active over short distances.
- (iii) General shape of force-distance graph is similar for both the forces.
- (iv) Both the forces are attractive up to certain distance between atoms/molecules and become repulsive when the distance between them become less than that value.

(2) Dissimilarities

- (i) Interatomic force depends upon the distance between the two atoms, whereas the intermolecular force depends upon the distance between the two molecules as well as their relative orientation.
- (ii) Interatomic forces are about 50 to 100 times stronger than intermolecular forces.
- (iii) The value of r_0 for two atoms is smaller than the corresponding value for the molecules. Therefore one molecule is not restricted to attract only one molecule, but can attract many molecule. It is not so in case of atoms, since the atoms of one molecule cannot bind the atoms of other molecules.