

# van der Waals bonding

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The van der Waals force, named after Dutch scientist Johannes Diderik van der Waals, is the sum of the attractive or repulsive forces between molecules other than those due to covalent bonds, the hydrogen bonds, or ionic bonds.

The term includes:

- force between two permanent dipoles
- force between a permanent dipole and a corresponding induced dipole
- force between two instantaneously induced dipoles

The ability of geckos—which can hang on a glass surface using only one toe—to climb on sheer surfaces has been attributed to the van der Waals forces between these surfaces and the spatula, or microscopic projections, which cover the hair-like setae found on their footpads.

