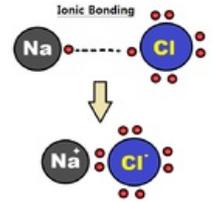


# Types of bonds between atoms

A bond is formed between atoms only when the newly formed molecule has **lower energy** (higher stability) than the original atom. The inner electrons are usually untouched by the bond. The molecule as a whole is subject to Pauli's Principle, so if the atoms were forced to move their electrons to higher energy states, they will not interact with each other. In practice, this means that only the electrons of the valence layers of the atom, i.e. from the uppermost electron shell, react.

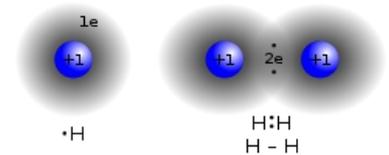
## Ionic bond

When approaching each other, an electron can pass from one atom to another and the resulting ions are attracted -> a bond formed by coulombic attractive forces and the distance between the atoms is greater than the sum of their radii. The bond is so-called unsaturated, i.e. the number of ions that attract each other is not limited => **formation of crystals**. In a polar solvent, the bond is broken and the substance dissolves. See Ionic bond.



## Covalent Bond

One or more pairs of electrons in this bond belong to both atoms (electron sharing, short-range bond). The bond is **very strong** if the spins in the pair of electrons are **antiparallel**. Only electrons from the outer and not completely saturated shell can participate in the bond. In the case of this bond, the electric charge in the molecule is not distributed symmetrically, and the molecule thus has the character of a **dipole**. A purely covalent bond occurs, for example, in the H<sub>2</sub> molecule.



## Links

### Related Articles

- Coordination Covalent Bond

### Source

- KUBATOVA, Senta. *Biophoto* [online]. [cit. 2011-01-31]. <<https://uloz.to/!CM6zAi6z/biofot-doc>>.