Compound Structure and Properties

AP Chemistry · Vocabulary in context

Word	Example
chemical bond /ˈkemɪkl bɒnd/	A **chemical bond** holds atoms together.
Ionic bond /aɪˈɒnɪk bɒnd/	**Ionic bond** forces hold Na^+ and Cl^- together. Na^+ Cl^-
Covalent bond /ˈkəʊvələnt bɒnd/	**Covalent bond** electrons are shared between two atoms.
polar covalent /ˈpəʊlə ˈkəʊvələnt/	The bond in HCl is **polar covalent**: chlorine pulls the electrons more. HCl
Metallic bond /məˈtælɪk bɒnd/	**Metallic bond** forces hold metal ions in a sea of electrons.
potential energy /pəˈtenʃl ˈenədʒi/	Two atoms bond at the distance where their **potential energy** is lowest.
bond length /bɒnd leŋθ/	A double bond has a shorter **bond length** than a single bond.
bond energy /bɒnd ˈenədʒi/	The C–H **bond energy** is about 413 kJ/mol. C–H 413 kJ/mol
ionic solid /aɪˈɒnɪk ˈsɒlɪd/	An **ionic solid** is held together by its lattice energy.
lattice /ˈlætɪs/	The ions in salt sit in a regular **lattice**.
delocalized /dɪˈlɒkəlaɪzd/	In metals, the outer electrons are **delocalized**: they move freely.
alloy /ˈælɔɪ/	Brass is an **alloy** containing copper and zinc.
Lewis diagram /ˈluːɪs ˈdaɪəgræm/	A **Lewis diagram** shows the outer electrons as dots.

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lone pairs /ləʊn peəz/	Water has two **lone pairs** on its oxygen atom.
octet /ɒkˈtet/	Most atoms are stable with an **octet**: eight outer electrons. 8
resonance /ˈrezənəns/	**Resonance** makes the swing go very high.
Formal charge /ˈfɔːml tʃɑːdʒ/	**Formal charge** helps you choose the best Lewis structure.
VSEPR /ˈvespə/	**VSEPR** theory predicts the shape of a molecule.
Hybridization /ˌhaɪbrɪdaɪˈzeɪʃn/	**Hybridization** mixes orbitals, such as sp^3 in methane. sp^3
geometric isomers /ˌdʒiːəʊˈmetrɪk ˈaɪsəməz/	Cis and trans forms are **geometric isomers**.
sigma bond /ˈsɪgmə bɒnd/	A single bond is a **sigma bond**.
pi bond /paɪ bɒnd/	A double bond has one sigma bond and one **pi bond**.