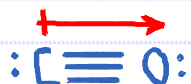


11.4 The Nature of Intermolecular Forces

8.6 – Molecular Polarity – Chem 111 Review! – Bond Polarity

Requirement: All you need is a polar covalent bond. That is a bond in which the constituent atoms have different electronegativities.



C-O bond is polar as there is a difference in electronegativity between C and O. Oxygen is more electronegative than carbon.



N-N bond is nonpolar. There is no difference in electronegativity.

11.4 The Nature of Intermolecular Forces

8.6 – Molecular Polarity – Chem 111 Review! – Molecular Polarity

Molecule polar if Σ Polar bonds > 0 ... vector sum ... the molecule has a **Dipole Moment**.

Simplifying Molecular Polarity with 3 simple questions – note that this is an over simplification.

Q1: Does the molecule have a polar bond?
No: Nonpolar Yes: On to question 2.

Q2: Does the central atom have a lone pair(s)?
No: On to question 3. Yes: Polar *1 *1: True if the central atom obeys the Octet Rule. Take care if the central atom is beyond the octet.

Q3: Are the terminal atoms around the central atom all the same?
No: Polar *1 Yes: Nonpolar

How many of the following molecules are polar?

