

Resonance

= Lewis structure.

Resonance structures are different ways to draw the same compound.

electrons. Bond are shared between atoms.

A double headed arrow between these structures indicates that these are same compound drawn differently and are usually put in a square bracket to indicate that structures must be averaged.

Equivalent structures mean structures that are contributing equally to the resonance hybrid.

Contribution depends on;

- ① Valid Lewis structure with minimum amount of charge separation, you know that by counting the formal charge for each atom +2 is a large charge separation (not good Lewis structure)
- ② Only electrons can be delocalized, electrons in double bonds and lone pairs can be shifted and the number of unpaired electrons must remain the same
- ③ Satisfy the octet rule with as many bonds as possible
- ④ Negative charges should be more stable on more electro-negative atoms.

To calculate bond order; Take a particular atom, add the number of bonds it makes throughout the resonance and divide it by the number of resonance structures.