

Electrovalent Bonding

In similar manner by which polar **Water Molecule** unlike atoms (Hydrogen Atoms 78 / Oxygen Atom ID (210) of Figure (3-27) take-on opposite electrical Charges (B+ / B-), other gas-atoms molecule (s) experience the same **Electrical Charge Effect** ($q - q'$) when covalent-electron sharing occurs, as illustrated in polar-molecule **Carbon Dioxide** CO₂ (910) of Figure (9-2) as to allotropic molecule of **Ozone** O₃ (930) of Figure (9-4).

(210) of Figure (3-27)

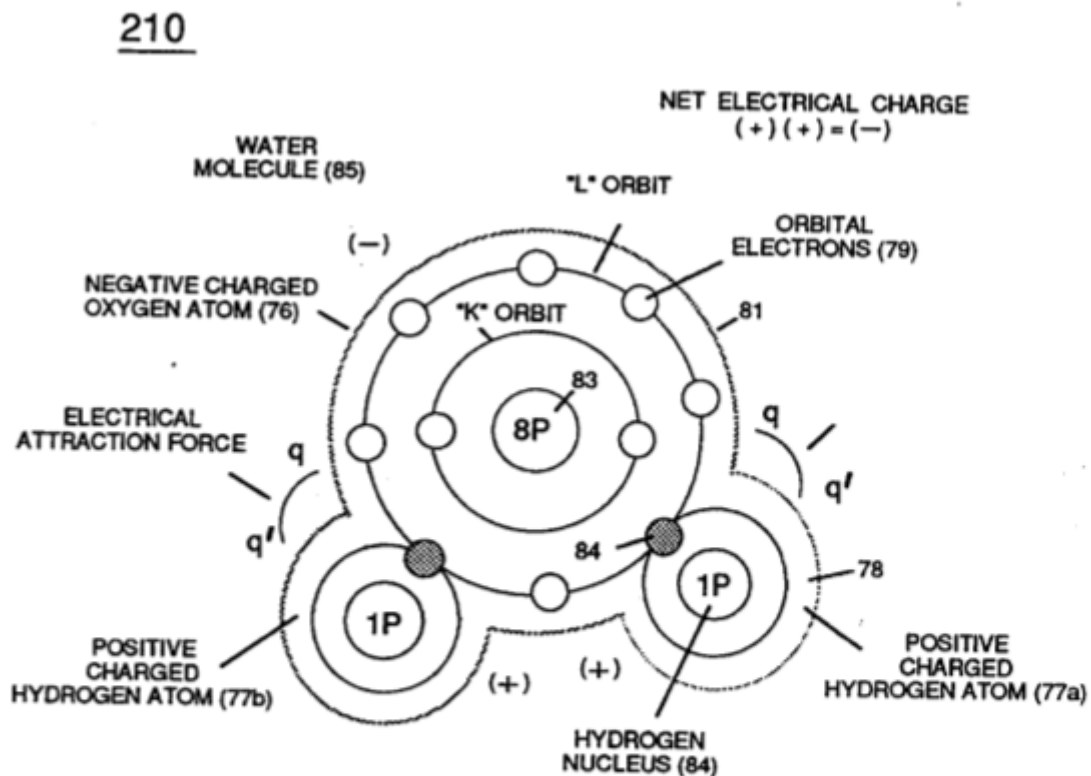


FIGURE 3-27: ELECTRICALLY CHARGED WATER MOLECULE

(910) of Figure (9-2)

910

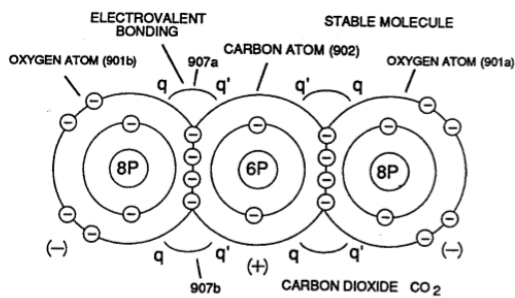


FIGURE 9-2: CARBON DIOXIDE CO₂

(930) of Figure (9-4)

930

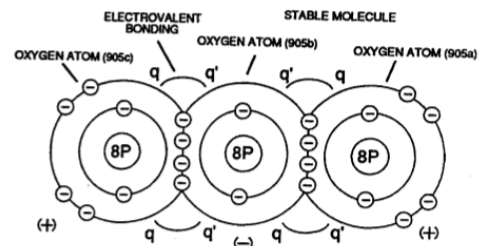


FIGURE 9-4: OZONE O₃

Carbon Dioxide molecule O₂ (910) **Electrovalent Bonding** forces (q - q') comes into existence when unlike **Carbon Atom** (902) shares electrons with each of two **Oxygen Atoms** (901a / 901b) since the accepted and captured covalent electrons migrates toward both oxygen atom (901a and 901b) nucleus proton-cluster of eight particles having a greater total positive static charge than **Carbon Atom** (902) nucleus proton-cluster of only six ... forming polar charged (B+ / B-) Carbon Dioxide CO₂ molecule (910).

The additive two captured/accepted electrons (total ten 10 electrons as to only eight B protons) causes both oxygen atoms (901a / 901b) to individually take-on a negative electrical charge (B-) while the center positioned **Carbon Atom** (902) emanates a positive electrical intensity (q - q') when its bonds connect to the oxygen atoms (901a / 901b).

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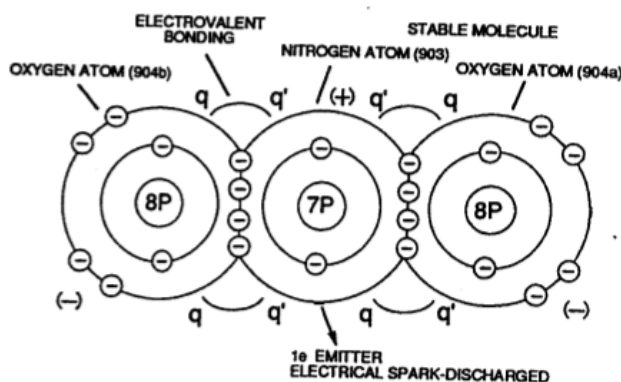


FIGURE 9-5: NITROGEN DIOXIDE NO₂

N

nitrogen Dioxide NO₂ (940) of

Figure (9-5) is another example of polar electrical charging (q - q') of two unlike atoms

forming a stable molecule wherein a **Nitrogen Atom** (N) (903) covalently interlocks with two **Oxygen Atoms** (904a / 904b).

Identical gas-atoms of **Oxygen Atoms** (905a / 905b 1905c) of Figure (9-4) further exhibits **Electrical Charging Effect** ($q - q'$) since in all cases the second **Electron Shell** (L-orbit) can accept up to eight (8) electrons to cause molecule stabilization.

920

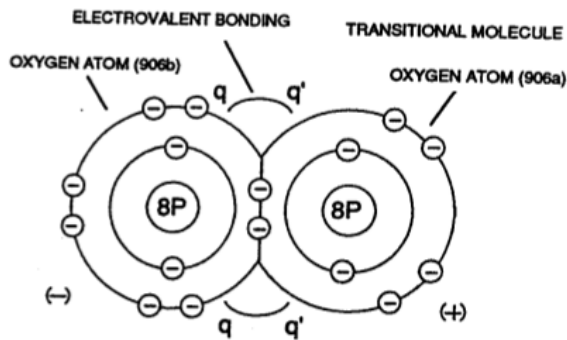


FIGURE 9-3: OXYGEN O_2

Transitional gas-molecule of

Oxygen O_2 combines together two oxygen atoms (906a / 906b) in this way while allowing the donor oxygen atom (906b) to except another oxygen atom (905c) of Figure (9-4) since it's L-Orbit (Outer Shell) still has available two "**Electron-Gaps**" for covalent **Linkup**, as illustrated in (920) of Figure (9-3).

Electrical Charging Effect ($q - q'$) is **Electrical Attraction Force** ($q - q'$) of opposite electrical polarity between the established positive (B+) electrically charged atom (s) and the negative (B-) electrical charged atom (s).

Electrical intensity of **Opposite Electrical Attraction Force** ($q - q'a' - 907a + q - qb' - 907b$) (herein after called **Electrovalent Bonding**) (total electrical bonding force between two opposite electrical charged atoms) are equivalent to the total number of electrons being used/accepted by the host atom (s) having the greater positive charged (B+) nucleus as so established under the laws of physics which states for "*every action there is an equal and opposite reaction*".

This is possible due the fact that all orbiting individual electrons display their own negative electrical charge (B-) whereas each proton-particle separately supports a positive electrical charge (B+)

... both opposite electrical charged particles (Proton as to each Electron) being equal in electrical magnitude (B^+ / B^-).

And due to the fact that the oxygen atom does not take-on an electromagnetic charged field since its electrons pair together and spin in opposite direction.

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