
LESSON 8
MOLECULAR
COMPOUNDS

Molecular Compound

- It is a compound that is made up of non-metals. The bond that forms between them is called a covalent bond. The bonded atoms form a molecule.
- Molecule: A group of two or more non-metal atoms joined together with a covalent bond.
- The electrons are shared between the two elements.

Naming Molecular Compounds

- **Greek prefixes** are used to show the **number of atoms** of each element. (Some elements have more than 1 combining capacity.)
- The prefix “**mono**” is used only for **second** element in the name.
- When a prefix ending with a **vowel** (“O” or “a”) is used with oxygen, the vowel is **dropped**. Example, use “monoxide” not “monoxide”, and “tetroxide” not “tetraoxide”

Greek Prefixes

Number	Greek Prefix
1	mon(o)-
2	di-
3	tri-
4	Tetr(a)-
5	pent(a)-
6	hex(a)-
7	hept(a)-
8	oct(a)-
9	non(a)-
10	deca-

NOTE: When there is only **one atom of the first element** in the molecular compound, the **prefix “mono” is not necessary.**

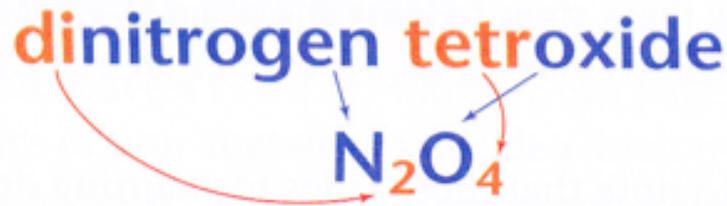
Naming Molecular Compounds

Steps	
Step 1: Look at the formula.	Formula: CO ₂
Step 2: The first element: use the periodic table to name it.	C = carbon
Step 3: Use the correct prefix for the number of atoms in the element.	carbon There is only 1 carbon atom, so the correct prefix is “mono”. BUT “mono” is not included for the first element.
Step 4: The second element: use the periodic table to name it, BUT change the ending to “ide”	oxygen → <u>oxide</u>
Step 5: Choose the correct for the number of atoms of the element.	2 = di → <u>oxide</u> There are 2 oxygen atoms, so the correct prefix is “di”
Step 6: Combine the two parts of the name.	Carbon dioxide

Writing Formula of Molecular Compounds

Steps	
Step 1: Look at the name.	Formula: dinitrogen tetroxide
Step 2: Use the periodic table to find the symbols for the elements.	nitrogen = N oxide = oxygen = O
Step 3: Use the prefixes table to determine the number of atoms of each element.	di = 2 tetra = 4
Step 4: Write in the subscript, and write the chemical formula.	N_2O_4

The chemical formula for dinitrogen tetroxide is N_2O_4 .



Note: **Do not reduce the subscripts** if you write the chemical formulas from the compound names.