

Naming Simple Compounds



Visual Chem Cards

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Writing the 'Formula' of Ionic Compounds

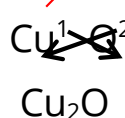
Ionic compounds: two-word chemical name

Word 1		Word 2
Name of metal element (M)	(Roman numerals) if applicable	Anion name (X)

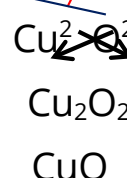
Roman numerals give the charge of the metal ion in compound.

Copper (I) oxide

Copper (II) oxide



Anion charge
(see table below).



Common Anions

-1		-2		-3	
Fluoride	F ⁻	Oxide	O ²⁻	Nitride	N ³⁻
Chloride	Cl ⁻	Sulfide	S ²⁻	Phosphide	P ³⁻
Bromide	Br ⁻	Sulfite	SO ₃ ²⁻	Phosphate	PO ₄ ³⁻
Iodide	I ⁻	Sulfate	SO ₄ ²⁻		
Hydride	H ⁻	Thiosulfate	S ₂ O ₃ ²⁻		
Hydrogen carbonate	HCO ₃ ⁻	Chromate	CrO ₄ ²⁻		
Hydroxide	OH ⁻	Dichromate	Cr ₂ O ₇ ²⁻		
Nitrite	NO ₂ ⁻	Oxalate	C ₂ O ₄ ²⁻		
Nitrate	NO ₃ ⁻				
Chlorate	ClO ₃ ⁻				
Perchlorate	ClO ₄ ⁻				
Hypochlorite	ClO ⁻				
Bisulfide	HS ⁻				
Hydrogen sulphide	HSO ₄ ⁻				
Iodate	IO ₃ ⁻				
Cyanide	CN ⁻				
Amide	NH ₂ ⁻				
Cyanate	OCN ⁻				
Peroxide	O ₂ ²⁻				
Thiocyanate	SCN ⁻				

Naming Ionic Compounds



two-word chemical name

Word 1		Word 2
Name of metal element (M)	(Roman numerals) if applicable	Anion name (X)

Example: CaO

Ca is the chemical symbol for calcium (Word 1)

O is the chemical symbol for oxygen, which in a compound becomes oxide (Word 2)

Name: calcium oxide

Example: Al(ClO₄)₃

Al is the chemical symbol for aluminium (Word 1)

ClO₄⁻ is known as the perchlorate (Word 2) ion

Name: Aluminium perchlorate

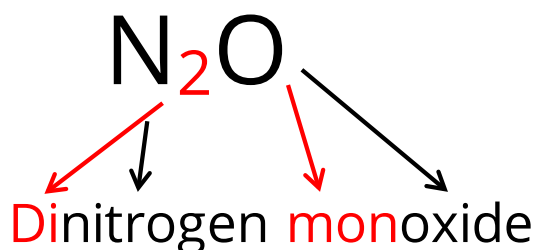
Naming Simple Covalent Compounds

Simple covalent compounds: two-word chemical name



X and Y are non-metals

First Name		Family Name	
Prefix (a)	name of element X	Prefix (b)	'anion name' of element(s) Y



List of prefixes

Mon-	1
Di-	2
Tri-	3
Tetra-	4
Penta-	5
Hexa-	6
Hepta-	7
Octa-	8

Examples

N_2O	Dinitrogen monoxide
NO	Nitrogen monoxide
NO_2	Nitrogen dioxide
N_2O_4	Dinitrogen tetroxide
CCl_4	Carbon tetrachloride
SO_3	Sulfur trioxide
P_2O_5	Diphosphorus pentoxide
SF_2	Sulfur difluoride
CO	Carbon monoxide
CO_2	Carbon dioxide