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Molar Mass of Compounds / Molecules

Molar Mass is the **sum** (add) of all atoms together.

Na: (Na)

11
Na
22.99

MM = 22.99 g/mol

Cl_2: (Cl)(Cl)

17
Cl
35.45

MM = 2(35.45 g/mol)
= 70.90

NaCl (Na)(Cl)

Na : 22.99
Cl : 35.45

NaCl : 58.44 g/mol
(Add Na + Cl)

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CCl_4 (Carbon Tetrachloride)

	#	Molar Mass
C	1	12.01 g/mol
Cl	4	35.45 g/mol
CCl_4	153.81 g/mol	C (1) | Cl_4 (4)

Work

1 · 12.01 = 12.01

4 · 35.45 = 141.8

12.01 + 141.8
= 153.81 g/mol

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WS_3 (Tungsten (VI) Sulfide)

	#	Molar Mass
W	1	183.84 g/mol
S	3	32.07 g/mol
WS_3		280.05 g/mol

WS_3

Work

$1 \cdot 183.84$

$3 \cdot 32.07$

$= 280.05$

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Molar Mass Calculations

MM_{NaF}

Sodium	1	22.99 g/mol
Fluorine	1	19.00 g/mol
NaF		41.99 g/mol

$Na:F = Na_1F_1$

MM_{NaFO_3}

Na	1	22.99 g/mol
F	1	19.00 g/mol
O	3	16.00 g/mol
$NaFO_3$		89.99 g/mol

$NaFO_3 = Na_1F_1O_3$

Polyatomic Ion

Molar Mass Calculations

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MM $Ca(BrO_3)_2$: $Ca_1(Br_1O_3)_2$

Ca : 1

Br : 1 · 2 = 2

O : 3 · 2 = 6

Ca	1	40.08 g/mol
Br	2	79.90 g/mol
O	6	16.00 g/mol
$Ca(BrO_3)_2$		295.88 g/mol

$1 \cdot 40.08 + 2 \cdot 79.90 + 6 \cdot 16.00 = 295.88$