

Review: Calculating Molar Mass

Molar Mass $V_2(SO_4)_3$

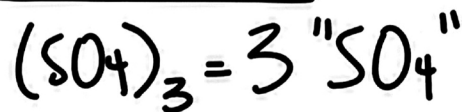
$$V: 2 \times 50.94 \text{ g/mol}$$

$$S: 3 \times 32.07 \text{ g/mol}$$

$$O: 12 \times 16.00 \text{ g/mol}$$

$$V_2(SO_4)_3: 390.09 \text{ g/mol}$$

Remember



$$S: 1 \cdot 3 = 3$$

$$O: 4 \cdot 3 = 12$$

Molar Conversions

Molar Mass

Mass (g) of 1 mol
of a substance.

$$(1 \text{ mol} = 6.022 \times 10^{23} \text{ particles})$$

$$MM = \text{g/mol}$$

Molar Mass Conversion

$$MM = \frac{\text{Mass A (g)}}{1 \text{ mol A (mol)}}$$

$$MM = \text{—— g/mol}$$

T-Chart Method

Start (unit _A)	Conversion B
	Conversion A
	molar mass
	= end (unit _B)

Unit A (starting)
 mass (g) or Mol^{*} (mol)
 Convert (change)
 Unit B (final)
 Mass (g) or Mol (mol)^{*}
 * Amount

Two main "T-Charts"

mol A → mass A

Start mol A	MM g A
	1 mol A
	= ____ g A

mass A → mol A

start g A	1 mol A
	MM g A
	= ____ mol A

Show all units (g or mol) and labels (A) in T-Chart

Example mol A $\rightarrow$ mass A

1.90 mol Mg, convert to mass Mg

<u>start</u>		<u>final</u>	
Start mol Mg	MM g Mg	MM Mg = 24.31 g/mol	
<u>1.90 mol Mg</u>	<u>24.31 g Mg</u>	<u>1.90 mol Mg</u>	<u>24.31 g Mg</u>
	1 mol Mg		1 mol Mg
=	g Mg	=	46.19 g Mg

Example mass A $\rightarrow$ mol A

141.6 g Mg, convert to mol Mg

<u>start</u>		<u>final</u>	
Start g Mg	1 mol Mg	MM Mg = 24.31 g/mol	
<u>141.6 g Mg</u>	<u>1 mol Mg</u>	<u>141.6 g Mg</u>	<u>1 mol Mg</u>
	MM g Mg		24.31 g Mg
=	mol Mg	=	5.82 mol Mg