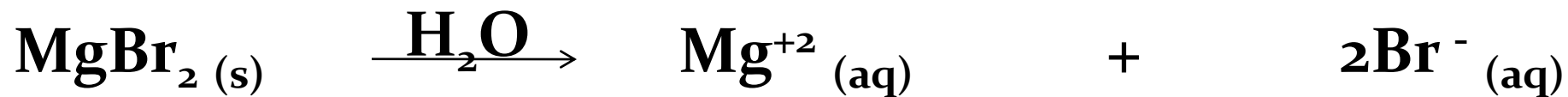
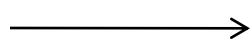


3.2 Concentration of Individual Ions

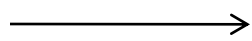


1 mol



+

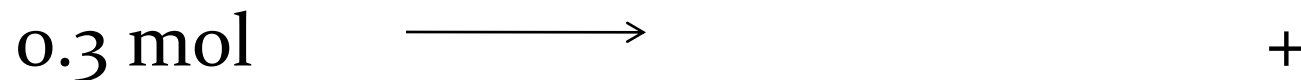
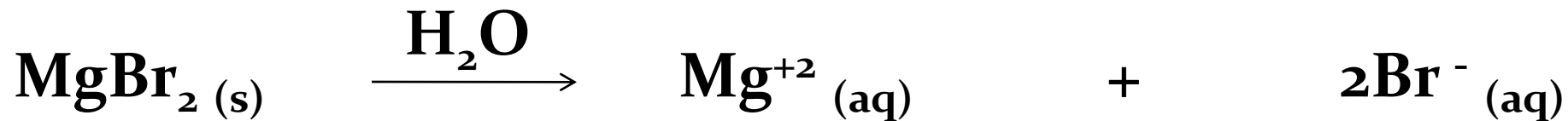
0.3 mol



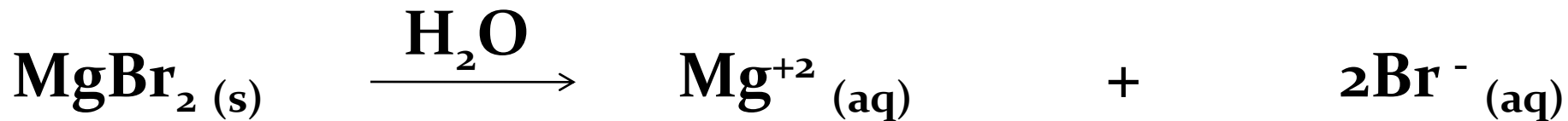
+

2 M

3.2 Concentration of Individual Ions



3.4 Concentration of Individual Ions

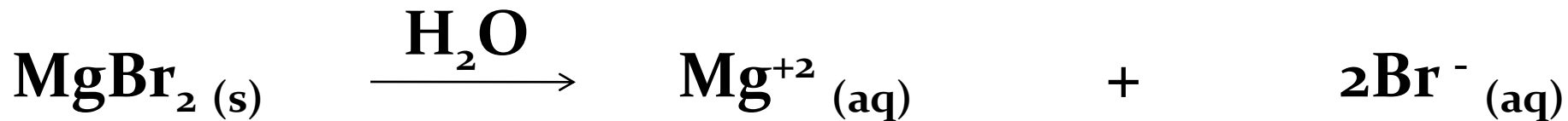


1 mol \longrightarrow 1 mol + 2 mol

1 M \longrightarrow 1 M + 2 M

0.3 mol \longrightarrow +

3.2 Concentration of Individual Ions



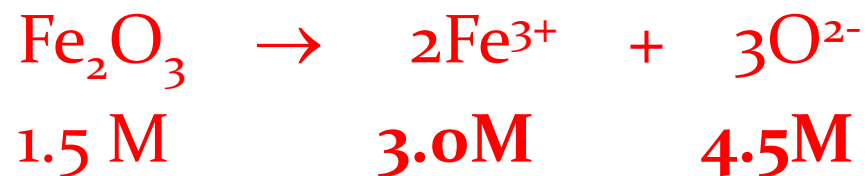
1 mol \longrightarrow 1 mol + 2 mol

1 M \longrightarrow 1 M + 2 M

0.3 mol \longrightarrow 0.3 M + 0.6 M

3.2 Concentration of Individual Ions

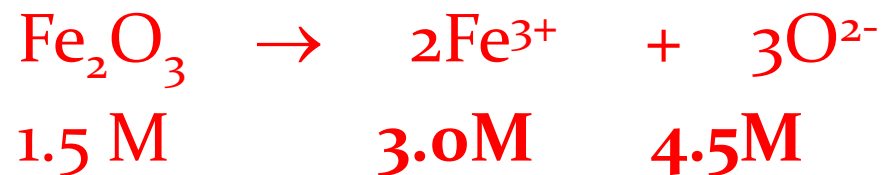
Example: What are the concentrations of ions in a 1.5 M Fe_2O_3 solution?



Example: 8.5g of MgCl_2 is dissolved in 2.0L. What is $[\text{Mg}^{+2}]$ and $[\text{Cl}^-]$?

3.2 Concentration of Individual Ions

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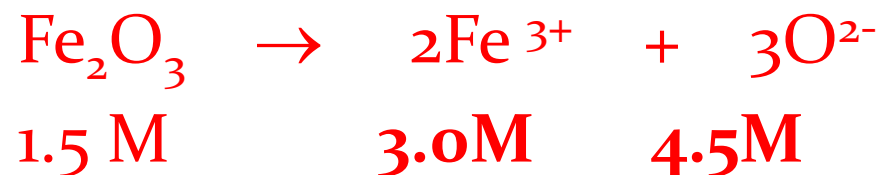


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$$[\text{MgCl}_2] = 8.5\text{g} \times \frac{1 \text{ mol}}{95.1 \text{ g}} \times \frac{1}{2.0 \text{ L}} = 0.045 \text{ M}$$

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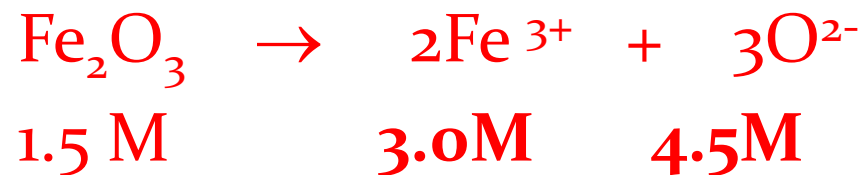
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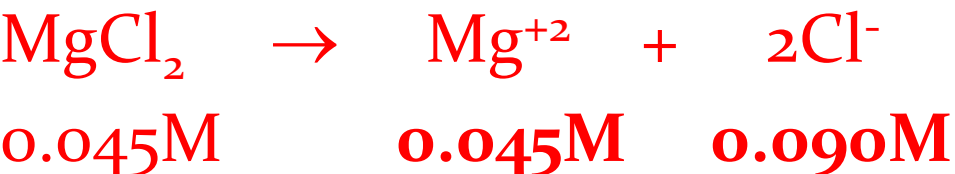
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3.2 Concentration of Individual Ions

Example: 500 mL of 0.8 M Li_2CO_3 is mixed with 500 mL of 0.5 M BeF_2 . Find concentration of all ions!

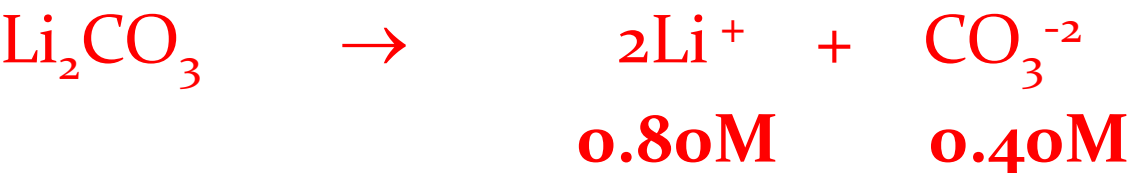
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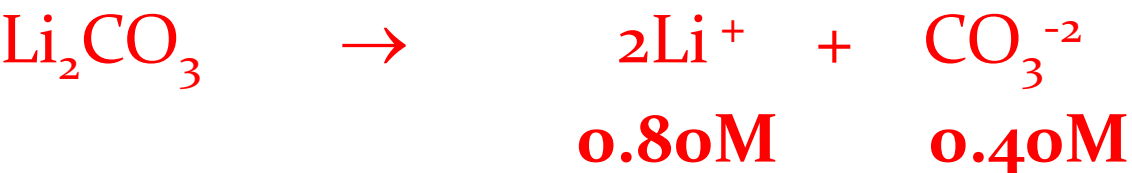
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$$C_1V_1 = C_2V_2$$

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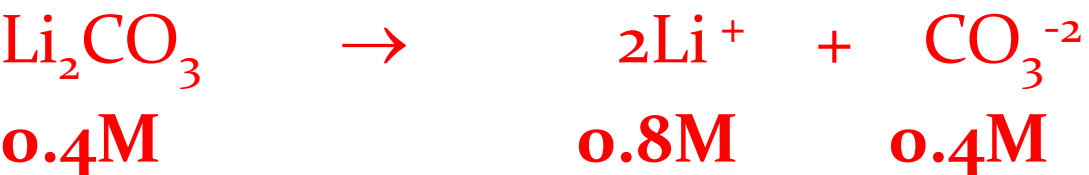


$$C_1V_1 = C_2V_2$$

$$(0.8)(0.5) = (C_2)(1.0)$$

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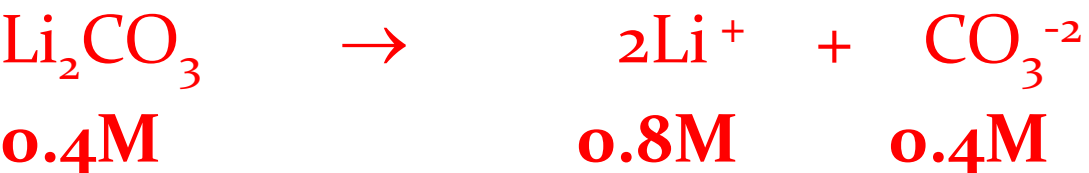
$$(0.8)(0.5) = (C_2)(1.0)$$

$$C_2 = \mathbf{0.4 M}$$

$$\text{Or: } 0.8 \text{ M Li}_2\text{CO}_3 \times 500\text{ml} / 1000\text{ml} = \mathbf{0.4 M Li}_2\text{CO}_3$$

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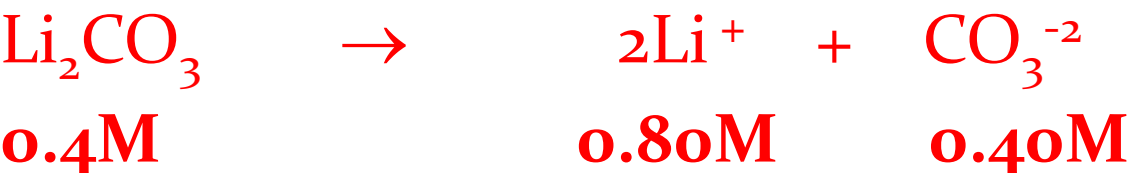
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3.2 Concentration of Individual Ions

Example: 500 mL of 0.8 M Li_2CO_3 is mixed with 500 mL of 0.5 M BeF_2 . Find concentration of all ions!



$$0.5 \text{ MBeF}_2 \times 500\text{ml} / 1000\text{ml} = 0.25 \text{ MBeF}_2$$

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