WANT 2M NaCl (aq) ← solution

? L

How much water must be added to 23.9 g NaCl to make a 2M NaCl (aq) soln?

2 Moles NaCl / 1 L soln

$$\frac{1\ \text{L}}{2\ \text{Mole NaCl}} \left| \frac{1\ \text{Mole NaCl}}{58\ \text{g NaCl}} \right| \frac{23.9\ \text{g NaCl}}{} = 0.206\ \text{L}$$

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23.9 g NaCl, 2M, ___ L

$$\frac{M}{1} = \frac{\text{Moles}}{L}$$

$$\frac{\text{Moles}}{1} = \frac{g}{MW}$$

$$= \frac{23\text{g}}{58}$$

$$\frac{2}{1} = \frac{0.412\ \text{Mole}}{L}$$

0.412 Mole / 1 kg

$$\frac{L}{1} = \frac{0.412}{2} = 0.206\ \text{L}$$

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Electrolyte → Needs ions!

① Ionic! ⇒ M + NM

OR

② Very Polar (some cases) → can conduct.

RARE

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Net Ionic Equations

X p125

molecular eqn $BaCl_{2(aq)} + K_2SO_{4(aq)} \rightarrow BaSO_{4(s)} + 2KCl_{(aq)}$

complete ionic eqn $Ba^{+2}_{(aq)} + 2Cl^-_{(aq)} + 2K^+_{(aq)} + SO_4^{-2}_{(aq)} \rightarrow BaSO_{4(s)} + 2K^+_{(aq)} + 2Cl^-_{(aq)}$

Net ionic Eqn $Ba^{+2}_{(aq)} + SO_4^{-2}_{(aq)} \rightarrow BaSO_{4(s)}$

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Ions

① Soluble Salts (p 125 Table 4.1)

② STRONG ACIDS (H^+ and $Cl^-, Br^-, I^-, SO_4^{-2}, NO_3^-, ClO_3^-, ClO_4^-$)

③ STRONG BASES

Gp 1 Alkali, Gp 2 → Chapter 2 = CBS Alkaline earths Ca, Sr, Ba

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HW LAB DUE

AND

4.24 ← break up into net ionic

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