

# 3.2 Molar Solubility

## 2. Molar Solubility

*Think of molar solubility as molarity of a saturated solution!!*

Example: 0.49 g of  $\text{AgBrO}_3$  is required to saturate 250 mL of water. What is the molar solubility of  $\text{AgBrO}_3$ ?

# 3.2 Molar Solubility

2. Molar Solubility ← Moles per litre !

*Think of molar solubility as molarity of a saturated solution!!*

Example: 0.49 g of  $\text{AgBrO}_3$  is required to saturate 250 mL of water. What is the molar solubility of  $\text{AgBrO}_3$ ?

# 3.2 Molar Solubility

2. Molar Solubility ← Moles per litre !

*Think of molar solubility as molarity of a saturated solution!!*

Example: 0.49 g of  $\text{AgBrO}_3$  is required to saturate 250 mL of water. What is the molar solubility of  $\text{AgBrO}_3$ ?

$$0.49 \text{ g} \times \frac{1 \text{ mol}}{235.8 \text{ g}} = 0.0021 \text{ mol}$$

# 3.2 Molar Solubility

2. Molar Solubility ← Moles per litre !

*Think of molar solubility as molarity of a saturated solution!!*

Example: 0.49 g of  $\text{AgBrO}_3$  is required to saturate 250 mL of water. What is the molar solubility of  $\text{AgBrO}_3$ ?

$$0.49 \text{ g} \times \frac{1 \text{ mol}}{235.8 \text{ g}} = 0.0021 \text{ mol}$$

$$\frac{0.0021 \text{ mol}}{0.25 \text{ L}} = 0.0083 \text{ M}$$

## 3.2 Molar Solubility

Example:  $\text{AlF}_3$  has a molar solubility of 0.0665 M. How many grams of  $\text{AlF}_3$  will dissolve in 1 L?

## 3.2 Molar Solubility

Example:  $\text{AlF}_3$  has a molar solubility of 0.0665 M. How many grams of  $\text{AlF}_3$  will dissolve in 1 L?

$$\text{Mol} = \text{M} \times \text{Litre} = 0.0665 \text{ M} \times 1 \text{ L} = 0.0665 \text{ mol AlF}_3$$

## 3.2 Molar Solubility

Example:  $\text{AlF}_3$  has a molar solubility of 0.0665 M. How many grams of  $\text{AlF}_3$  will dissolve in 1 L?

$$\text{Mol} = \text{M} \times \text{Litre} = 0.0665 \text{ M} \times 1 \text{ L} = 0.0665 \text{ mol AlF}_3$$

$$0.0665 \text{ mol} \times \frac{84 \text{ g}}{1 \text{ mol}} = 5.59 \text{ g/1 L}$$