

Step 1

Cup mass: 16.633g

Step 2 cup mass: 17.022g
(Mgesium)

Magnesium mass = 0.389g

Mg atomic #: 24.3050

$$\frac{0.389}{24.3050} = 0.0160092$$

$$= 0.032 \text{ mole HCl liter}$$

$$0.032 \text{ m} \frac{1 \text{ L}}{1 \text{ mol}} = 0.032 \text{ L (1000)}$$

$$= 32 \text{ mL} + 10$$

$$V_{\text{HCl}} = 42$$

$$C_s = 63^\circ \text{C}$$

$$H_{\text{cl}} = 49.8 - 16.633 \text{ g} = 32.367 \text{ g}$$

mg: 0.322

$$\text{mg atomic mass} = \frac{0.322}{24.3050}$$

$$= 0.013248(2)$$

$$= 0.0264 \text{ mole}$$

$$0.0264 \text{ m} \frac{1 \text{ L}}{1 \text{ mol}} = 0.0264 \text{ L (1000)}$$

$$= 26.4 \text{ mL} + 10$$

$$C_s = 60^\circ$$

$$V_{\text{HCl}} = 36.4$$

③ mg mass: 0.312

$$\text{mg atomic mass} = \frac{0.312}{24.3060}$$

$$= 0.01283 \times (2)$$

$$= 0.02567 \text{ mole}$$

$$0.02567 \text{ m} \frac{1 \text{ L}}{1 \text{ mol}} = 0.02567 \text{ L (1000)}$$

$$= 25.67 \text{ mL} + 10$$

$$H_{\text{cl}} = 51.003 \text{ g}$$

$$V_{\text{HCl}} = 35.67$$

$$C_s = 53^\circ \text{C}$$

$$H_{\text{cl}} = 51.003 - 16.633$$

$$= 34.37$$

Caution: Place fold-in flap under yellow sheet before writing, to protect the pages that follow.

$$H_{\text{cl}} = 46.255 \text{ g} - 16.633 \text{ g} = 29.622$$