

NAME \_\_\_\_\_ DATE \_\_\_\_\_ SECTION \_\_\_\_\_

INSTRUCTOR \_\_\_\_\_ GRADE \_\_\_\_\_

## EXPERIMENT 8: REPORT FOR THE STOICHIOMETRY OF THE REACTION OF MAGNESIUM WITH HYDROCHLORIC ACID

### DATA/RESULTS

	example	trial 1
*1. Mass of magnesium ribbon (g)	<u>0.186</u>	_____
2. Moles of magnesium (mol)	<u>0.00765</u>	_____
*3. Temperature of H <sub>2</sub> gas (°C)	<u>23.0</u>	_____
*4. Temperature of water (°C)	<u>23.0</u>	_____
*5. Volume H <sub>2</sub> O Collected (L)	<u>0.205</u>	_____
*6. Barometric pressure (torr)	<u>752.3</u>	_____
7. Vapor pressure of water (from table) (torr)	<u>21.1</u>	_____
8. Pressure of H <sub>2</sub> gas (torr)	<u>731.2</u>	_____
9. Moles of H <sub>2</sub> gas (mol)	<u>8.12 × 10<sup>-3</sup></u>	_____
*10. Volume of HCl solution (mL)	<u>25.0</u>	_____
*11. Molarity of HCl solution (mol/L)	<u>1.501</u>	_____
12. Initial moles of HCl (mol)	<u>0.0375</u>	_____
*13. Volume of NaOH used for titration (mL)	<u>23.80</u>	_____
*14. Molarity of NaOH solution (mol/L)	<u>1.000</u>	_____
15. Moles of excess HCl (mol)	<u>0.02380</u>	_____
16. Moles of HCl which reacted (mol)	<u>0.0137</u>	_____
17. No. of moles HCl(reacted)per mole Mg(molHCl/molMg)	<u>1.79</u>	_____
18. No. moles H <sub>2</sub> per mole Mg (molH <sub>2</sub> /molMg)	<u>1.06</u>	_____
19. Use these mole ratios to write a "balanced" chemical equation for the reaction: <u>      </u> Mg(s) + <u>      </u> HCl(aq) → <u>      </u> MgCl <u>      </u> (aq) + <u>      </u> H <sub>2</sub> (g)		

\*Numbers (items) with asterisks represent data taken in the lab, while the other numbers (items) were calculated from the lab data.