

CHEMISTRY 100

Name _____
Date _____

EXPERIMENT 5 - RECYCLING COPPER

Calculations

1. Weight of copper at start _____ g
2. Weight of empty dish _____ g
3. Weight of dish and copper _____ g
4. Weight of copper recovered (3-2) _____ g

$$\begin{aligned} \text{\% recovery} &= \frac{\text{weight of copper recovered}}{\text{weight of copper at start}} \times 100 = \frac{\text{_____ g}}{\text{_____ g}} \times 100 \\ &= \underline{\underline{\text{_____}}} \% \end{aligned}$$

Questions

State whether each of the following errors would make the % recovery too high, too low or have no effect.

- a. Losses of the solid occurred during decanting _____
- b. A student skipped washing the precipitate and as a result had compounds such as zinc sulfate mixed in with the copper _____
- c. A student added more NaOH in part 2 than was needed _____
- d. The solution that was decanted in part 6 still had a blue tinge _____
- e. There was still some solid Zn mixed with the Cu after the reaction in part 5 _____
- f. The copper was not completely dried at the end of part 6 _____
- g. A small quantity of Cu stuck to the evaporating dish or to the stirring rod _____
- h. The copper at the end oxidized to copper(II)oxide during the heating
($2\text{Cu} + \text{O}_2 \text{---->} 2\text{CuO}$) _____