

# ANALYSIS OF BLEACH

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Station #: \_\_\_\_\_

**Objective: To** determine the percent by mass of NaOCl in a bleach solution.

**Procedure:** As in Kwantlen Chemistry 1105 lab manual, pages \_\_\_\_\_.

**Observations:**

## Data:

Table 1. Titration Data

Molarity of Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> solution: \_\_\_\_\_

Volume of the diluted bleach pipetted: \_\_\_\_\_

	Run 1	Run 2	Run 3
Initial Buret Reading			
Final Buret Reading			
Volume added			
End Point Description			

Table 2. Gravimetric Analysis

Mass of 25 mL stoppered Erlenmeyer flask (g)	
Mass of stoppered Erlenmeyer flask & liquid (g)	
Mass of 15.00 mL liquid ONLY (g)	
Volume of the undiluted bleach pipetted (mL)	

**Calculations:**

Part-1

1. Determine the number of moles of iodine ( $I_2$ ) in each titration run.

Run 1 (show calculation):

Run 2: \_\_\_\_\_

Run 3: \_\_\_\_\_

2. Determine the number of moles of hypochlorite ion ( $ClO^-$ ) in your 10.00 mL diluted sample of bleach.

Run 1 (show calculation):

Run 2: \_\_\_\_\_

Run 3: \_\_\_\_\_

3. Calculate the average number of moles.

4. Determine the molarity (in terms of  $\text{ClO}^-$ ) in the original undiluted sample of bleach.

Part-2

1. Calculate the density of undiluted bleach sample.

2. Using the calculated density, determine the % (by mass) of NaOCl in your original undiluted sample of bleach.

**Conclusion:**

**Questions:**

1. Write the two half-reactions for each of the reactions involve in the titration.



2. What are some of the uses of bleach?