



**EQUIPMENT REQUIRED:**

pH Meter  
250 ml Beaker  
Stir Plate and Stir Bar  
Digital Electronic Scale (accurate to 1 g) and Weigh Boat  
25 ml Buret  
5 ml Pipette

**REAGENTS:**

.0667 N Sodium Hydroxide (NaOH)  
Distilled Water

**SAMPLE PREPARATION:**

Wine and juice sample should be degassed prior to testing.

**PROCEDURE:**

**Concentrate:**

1. Fill buret with the .0667 N Sodium Hydroxide.
2. Place 100 ml distilled water and a stir bar into a 250 ml beaker. Place on stir plate under the buret. Place pH electrode into water and turn on the stir plate. Add 5 ml of concentrate to the beaker to buffer the water.
3. Titrate the solution with NaOH to a pH of 8.20.
4. Weigh out 5 g of sample into a weigh boat. Carefully wash this into the buffer water, rinse and mix well so that all of the concentrate is in solution.
5. Refill the buret and retitrate to a pH of 8.20. Read buret and use following formula:

$$\frac{(V)(N)(75)(100)}{(1000)(W)}$$

V=Volume of NaOH • N=Normality of NaOH • W= Weight of sample in g

**NOTE:**

Because the sample is in grams, the answer will be in grams per 100 grams of sample.

**Example:**

Titration of 13 ml:  $13 \times .0667 \times 75 \times 100 = 1.3$

---

## PROCEDURE:

### *Juice and Wine:*

1. Fill buret with the .0667 N Sodium Hydroxide.
2. Place 100 ml distilled water and a stir bar into a 250 ml beaker. Place on stir plate under the buret. Place pH electrode into water and turn on the stir plate. Add 5 ml of juice or wine to the beaker to buffer the water.
3. Titrate the solution with NaOH to a pH of 8.20.
4. Pipette 5 ml of sample into the beaker, allow to mix well.
5. Refill the buret and retitrate to a pH of 8.20. Read buret and use following formula:

$$\frac{(V)(N)(75)(100)}{(1000)(W)}$$

V=Volume of NaOH • N=Normality of NaOH • W= Weight of sample in g

## NOTE:

Because the sample is in milliliters, the answer will be in grams per 100 milliliters of sample.

### *Example:*

Titration of 9 ml:  $\frac{9 \times .0667 \times 75 \times 100}{1000 \times 5} = .09$

81 M Street  
Fresno, CA 93721  
Tel: 559-485-2692  
Fax: 559-485-4254

640-D Airpark Rd.  
Napa, CA 94558  
Tel: 707-224-7903  
Fax: 707-255-2019

1165 Globe Ave.  
Mountainside, NJ 07092  
Tel: 908-301-1811  
Fax: 908-301-1812

1401 Ware St.  
Waupaca, WI 54981  
Tel: 715-258-5525  
Fax: 715-258-8488