

DATA SHEET

I. Saponification of Vegetable Oil....

Make the Soap and wash with salt water.

II. Water hardness

- A. Your soap + water observations:

- B. Soap + water + calcium chloride observations

- C. Alconox + water observations

- D. Alconox + water + calcium chloride observations

III. Emulsification

- A. Mineral oil (4 drops) + water, just after shaking observations

- B. Mineral oil (4 drops) + water after standing for 2 minutes, observations

- C. Mineral oil (4 drops) + water + your soap just after shaking, observations

- D. Mineral oil (4 drops) + water + your soap after standing for 2 minutes, observations

IV. Strong base-weak acid properties of soap

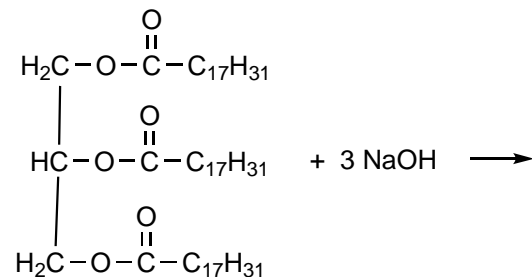
- A. Ivory soap + water observations:

- B. Ivory soap + water + phenolphthalein observations:

- C. Explanation

REVIEW QUESTIONS

1. Write the chemical equation for the saponification of cottonseed oil, considering it to be glycerol trioleate, given here.



2. Write the balanced equation for soap precipitating with hard water ion such as Ca^{+2} or Mg^{+2} .

3. What is saponification?

4. How do soaps and detergents emulsify (remove) oily materials from clothes or skin?

5. Is soap acidic or basic?

What test was done to determine this?

6. What happens when synthetic detergent is added to a sample of "hard water"?

7. What is soap?