

Lab Instructor: _____

Name: _____

Part 1 – Saponification – Preparation of Soap**Record any observations you make during the preparation of the soap.****Describe the appearance of your soap.****Part 2 – Properties of Soaps**

Tests	Water	Your soap	Pink lab soap	Detergent
pH test				
Foam test				
Interaction with oil				

Tests	Your soap	Pink lab soap	Detergent
Hard water test: CaCl_2			
Hard water test: MgCl_2			
Hard water test: FeCl_3			

Questions

1. Write the reaction for the saponification of glyceryl tripalmitate with sodium hydroxide.
2. Why is the product of saponification called a salt?
3. Why was ethanol added to the reaction mixture of fat and base?

4. Do you think the solid soap that you made contains glycerol? Why or why not? Explain.
5. Describe the appearance of your soap.
6. Explain how soaps emulsify oils and fats.
7. Explain why soaps are more soluble than fatty acids in water.
8. Did the solid soap you made contain excess base? Explain how you know.
9. How did your soap compare to the commercially prepared soap in its foaming ability?
10. Which soap was best at emulsifying oil? Explain how you can tell.

11. Explain what happened in the hard water tests. Did any of the soap solutions work better than the others? Explain.
12. How could you determine if a water sample is “hard” or “soft” water? Describe an experimental test.