



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Laura A. Beyer	Project Number S0501
Project Title The Effect of Sodium Lactate on the Saponification Process	
Abstract Objectives/Goals To determine if sodium lactate is a beneficial additive in soap. Specifically does it affect the pH level, or affect or accelerate dehydration? Methods/Materials For each test I made five small batches of soap. The control batch had no sodium lactate; the remaining four batches had varying rates of sodium lactate. pH levels were measured every five days and a sample bar from each batch was weighed daily for a minimum of three weeks. Results My tests showed that sodium lactate does not significantly affect the pH level, or the dehydration that is typical during saponification. The pH was very close or even a little higher on the soaps with sodium lactate. Likewise, the bars with sodium lactate weighed the same or very close to the bars without sodium lactate throughout the tests. Conclusions/Discussion The primary benefit of lowering the pH of soap is to produce a milder soap. Accelerating dehydration would produce a soap that is ready to use or sell sooner. I have concluded that sodium lactate does not significantly affect either of these properties, and thus would not be considered a beneficial additive for these purposes. However, I did notice that the texture of the soap with sodium lactate was smoother than soap without. This suggests there may be other reasons to consider sodium lactate as an additive.	
Summary Statement Determining the effect of sodium lactate on saponification.	
Help Received My mother provided general guidance on this project.	