



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> Christine E. Nielsen	<b>Project Number</b> <b>S0520</b>
<b>Project Title</b> <b>Affecting Latex Film Formation and Adhesion for Paint Removal</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> This project determines whether by applying a surfactant and/or base to the surface prior to painting, latex paint film formation can be disrupted enough to make it easier to remove. It was hypothesized that the application of a combination of base pH and a surfactant would be effective at disrupting the film formation of latex paint enough to make it easier to remove.</p> <p><b>Methods/Materials</b> The removal of latex paint on coated areas would be determined by coating a plate of glass with small squares of several different coating substances. The glass plate was then painted and allowed to dry. The paint was removed by lightly rubbing the painted plate with a sponge. The percentage of paint removal was measured by dividing each coated square into several smaller squares and estimating the approximate percentage of paint removed on each one, and then these values were averaged to find the approximate percentage of paint removed per coating.</p> <p><b>Results</b> Dish soap, a surfactant, had a significantly higher percentage of paint removal than the other coatings. Ferrous salt did very well when mixed with a surfactant. Also, mixtures with fabric softener work well. Borax does not seem to cause paint removal whatsoever.</p> <p><b>Conclusions/Discussion</b> Surfactants generally improved the amount of paint removal, whether or not they were mixed with bases. Also, bases did not seem to improve latex paint removal by large amounts by themselves. Further research should be done to find out why bases have less effect than surfactants.</p>	
<b>Summary Statement</b> This project determines whether by applying a surfactant and/or base to the surface prior to painting, latex paint film formation can be disrupted enough to make it easier to remove.	
<b>Help Received</b> Father helped edit report, Mother helped with board	