

Chem 400A Project 3 Spring 2019

The objective of this project is for you to compare 2-4 brands of the same product class, explain the function of each chemical and make a recommendation on which one of the brands should be bought. The report is written for a reader who has had 1st or 2nd year chemistry courses a few years ago.

The products must have at least 6 chemical ingredients (excluding water) and you should choose compounds with different selling points. For example, you could compare products with different efficacy claims ('longest lasting', 'whitest whites', 'heavy duty', etc.), purported environmental friendliness or price points. Ideally the products should have different chemical ingredients, preferably with at least one different active ingredient.

In your report, you should create a comparison table showing all the ingredients in each brand. You should explain the function/purpose of each ingredient and if there are significant differences, you should attempt to find out which ingredient is most effective and safest. You should append the MSDS sheets for three significant chemicals found in these products to illustrate any health concerns for specific chemicals and to explain how to use the MSDS information. You should conclude your report with a clear recommendation as to which product to buy based on effectiveness, safety and cost considerations. **The report should not exceed 10 pages in total (spaced 1.5 lines).**

Presentation: your group will be asked to do a short presentation on your findings in one of the last two lecture days. This should be prepared together and presented by the group or by a small subset of the group as a short Powerpoint presentation. Aim for a 10-15 minute (*at most*) summary of your findings with time for a few questions.

Some ideas for product classes and their typical ingredients can be found at:

<http://householdproducts.nlm.nih.gov/index.htm>

Possible product classes could involve:

Hair care products (shampoos, conditioners, hair straighteners, home perm and dye kits, etc.)
Antiperspirants and deodorants (some may not have enough ingredients)
Skin care products (soap, anti-wrinkle cream, sunscreen, hair removal, etc.)
Cleaning products (lots of 'green' cleaners to compare with traditional chemical cleaners here)
Home products (paints, caulking, varnish, power wash cleaners, etc.)

You don't have to buy anything: you could take a photo of the ingredients listed on the product and note the price.