NatAlchemy
Nature makes good scents

The Trouble with Bubbles

What is real nowadays, and what sources of information can I trust?
The "Green" Eco freaks say Sodium Lauryl Sulfate (SLS) is going to destroy the world and give us all cancer, the chemical industry stance is it's great and there is no danger, the US Government on one hand says its bad, and on the other just ignores it.

When it comes to today's spin masters and professional PR campaigns they can twist words and facts to the point where Alice in Wonderland would be the norm for the day.

So what is the trouble with bubbles?

What's the truth behind SLS, is it good or bad, dangerous or not??
First what is SLS, and why is it in soap, toothpaste and almost all of the cosmetics made?

SLS is an ester made from Sulphuric acid. Its original name is *"Sulfuric acid monododecyl ester sodium salt".* No one would buy a product to put on their skin that had sulfuric acid in its name, so the name game began. Now we have over 150 different names for SLS and its cousins**.** SLS is a cheap surfactant. We use surfactants to make bubbles. The stronger the surfactant the bigger the bubbles it can make. If you want a bubble bath with bubbles that are large and last for a long time you need a strong surfactant and SLS is one of the strongest.
The bubbles were originally there to help lift the oils from the surface to be cleaned, so that they can be rinsed off easily. SLS was first introduced as the typical agent to clean your floors, walls, clothes etc. It was cheap and it worked very well.
As it was added to shampoos people fell in love with the big bubbles. As people yelled for bigger bubbles the industry gave them bigger bubbles. This was done by increasing the amount of SLS to the product. *Bigger is better, right*?

The industry soon found out about the dark side of using SLS in skin care products. It stripped off all of the skins natural oils, and eczema, dermatitis, and other skin irritations were noticed in larger numbers. The industry then started to add oils, conditioners etc to their products, and also started to sell a whole array of other products for people to use to counteract the problems the SLS caused. Dry skin products, hair conditioners, skin lotions. They were now selling more products and making much more money, consumers had their big bubbles and everyone was happy.

Well everyone was happy except for the people who were getting skin problems. As more people started to complain about the skin problems some "*Green*" companies seized on the moment and made other versions of SLS like *Sodium Laureth Ether Sulfate* (SLES). They put big SLS Free banners on their products. It was true that it did not

contain Sodium lauryl sulfate, it had *Sodium laureth ether sulfate* SLES. SLES is a different version of SLS and has a different name, this tricked people for a while.

Later it was found out that some products containing SLES also contained low levels of 1,4-dioxane. The 1,4-dioxane is a chemical contaminant that is a result of the chemical process of making the SLES. It is present in low amounts but to this day no safe level of this compound is recommended in skin care products. 1,4-dioxane was one of the principal components of the chemical defoliant Agent Orange, used to by the US during the Vietnam War to strip off the jungle canopy to reveal their enemy. 1,4-dioxane is a hormonal disrupter believed to be the chief agent implicated in the host of cancers suffered by Vietnam military personnel after the war. It is also an oestrogen mimic thought to increase the chances of breast cancer and endometrial cancer, stress related illnesses and lower sperm counts. Other residual compounds were also found with the SLES including methylene chloride, and formaldehyde. The FDA outlawed the use of Methylene chloride in cosmetics products. Since the chemical industry could not remove all the contaminates in the manufacturing process of SLES the FDA just put a recommendation to monitor the levels of 1,4-dioxane. This is a case where big money lobbing paid off for the chemical industry and consumers lost. The U.S. Environmental Protection Agency classifies 1,4-dioxane to be a probable human carcinogen (having observed an increased incidence of cancer) and a known irritant. Under California Proposition 65, 1,4-dioxane is classified as a carcinogen because it has been shown to cause cancer. The FDA **encourages** manufacturers to remove 1,4-dioxane, though it is **not** required by federal law. The EU and most other countries have banned cosmetics that contain 1,4-dioxane.

The SLES compounds that were made in a rush to calm the fears of SLS introduced more dangerous compounds into our body care products then people realize. While SLS is a strong skin irritant since it strips away the natural protective oil layers from our skin, there is no scientific evidence SLS is linked to cancer. But this is not surprising, its not the SLS itself that is the problem it's the trace amounts of chemical contaminates that are made during the process of turning sulfuric acid into SLS that is the problem.

This "name change" dance is still on-going. When a compounds name goes on the "BAD" list the chemical industry creates a new version of the compound, changes it name and the game continues often with worse results.

Consumers are not chemists so how do we sort this out.
The US government does not require manufactures to list the compounds in soap.

How about a product that is labeled "Natural" or "Organic"
You can not rely on the words on the labels, as many of these products still can use SLS or SLES or one of its ugly cousins and still be labeled as USDA Organic.

How about the Whole Foods "Premium" body care standard?

This standard while banning SLS, still allows its other ugly cousins to be used, the manufactures are still playing the name game here.

Here is what I have been using as a simple guide.
If you want the purest soaps use a "100% Natural glycerin" made soap. These soaps should be made with Kosher vegetable glycerin, and many are vegan and are made from only plant oils. Make sure it says SLS free and they list the ingredients. If it does not list the ingredients don't buy it. I have found several soaps listed as All Natural and Organic that have SLS or its ugly cousins.

When in doubt check the bubbles …
If the product has BIG BUBBLES it has a harsh surfactant.
Almost all large commercially produced soaps either have SLS, SLES or another version of the compound. Again …**WHY**… because people buy bubbles.

How about toothpaste why is SLS in my toothpaste?
Again it's about the bubbles. We expect our toothpaste to foam up and it's the SLS that gives us the bubbles. It is also there to allow the flavors compounds to mix with oil and water. SLS is used in toothpaste because its cheap. The alternatives that are more natural cost more. There are now warnings on toothpaste about swallowing the toothpaste since SLS is a strong irritant.

WARNING
Keep out of the reach of children under 6 years of age. If you accidentally swallow more than used for bushing, seek professional assistance or contact a Poison Control Center immediately. As with other toothpaste, if irritation occurs discontinue use.

What do I look for or try to avoid?
Purchase products that are Free of *artificial Fragrances*, *Parabens, Sulfates, DEA*, and are *Biodegradeable*.

If you get a soap that is completely Sulfate free (not made from sulfuric acid) you don't have to worry about any of SLS ugly cousins, dangerous chemical contaminates and the name game that the manufactures are playing.

In other words if the ingredients are made from natural materials you will have a safer product when it's complete. With the availability of natural materials today there is no reason to use SLS, SLES, Parabens, or artificial flavors, artificial colors, artificial fragrances in a product that is used on your skin except to save cost, at the risk of the consumer's health and well being.

Author: Larry Marsala Natalchemy Inc. 6-15-2011

