



Tales from the Lab

“Integrity” Shampoo – lather without lauryl sulphate!!

By Brian McLean, Tri Nature Director and research chemist

“Good things come to those who wait” – boy, has that phrase had relevance to Tri Nature members patiently waiting for the unveiling of a laureth sulphate-free shampoo?!

Many of you that were present at the various Christmas Expos last year took a sample of the newly-fragranced, trial shampoo from our soon-to-be-released “Integrity” Hair Care Range and you, at least, now know that the wait will be worth it!

For the rest of our members, I thought it timely to overview some of the challenges this innovation has presented, so that you can see why there had to be a ‘wait’ at all.

We’ll begin with trends: The current ‘trend’ is toward ‘natural’ and ‘organic’ formulations with claims of hair care ranges, Unfortunately the claims are, for the most part, developed by marketing people and not technical people and show little regard for the facts.

A modern shampoo must display a creamy, rich foam and be kind to sensitive skins. Consumers prefer that it be as ‘natural’ as possible – but they require products to cleanse properly AND to moisturise, soften and work miracles on the hair condition.

For years, Sodium lauryl sulphate and Sodium lauryl ether sulphate, when formulated properly, delivered on ALL these requirements. We therefore faced a HUGE challenge – to deliver the results of SLS or SLES, without using it!

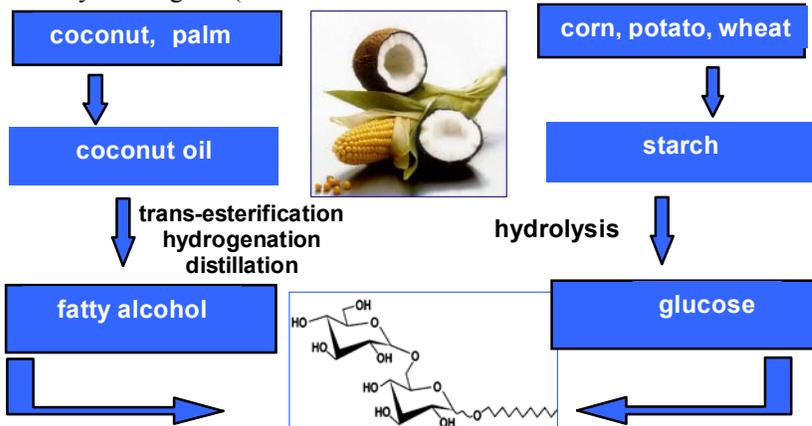
We decided against the use of SLS and SLES as ingredients for our shampoo range years ago - long before it became an issue driven by inaccurate marketing agendas. We did so because we considered them to be cheap, functional ingredients and not as mild or effective as the more expensive Ammonium Lauryl Sulphate which we successfully employed. There were

sulphate-free systems available – but none that delivered results that would be even halfway acceptable to consumers on a long-term basis.

From our point of view, there are other reasons for looking into sulphate-free systems that outweigh simply being able to say that they are sulphate-free.

To understand our particular interest in the GLUCOSIDE range we are pursuing requires a little lesson in chemistry:

All detergent molecules (the things that clean and solubilise oils) have a ‘water-loving’ (or ‘hydrophilic’) part and an ‘oil-loving (or ‘lipophilic’) part. That’s why we are able to use water to clean oil from skin and other surfaces. Previously, in all (even ‘natural-based’ surfactants), the ‘naturalness’ was only able to be achieved on the oil loving side. You can see by the diagram (where the



‘oil loving’ part of the process is shown on the left) that the natural ingredients of coconut and palm oil are processed by various means of extraction to produce a fatty, natural based alcohol.

The water loving side was gained by sulphonation (sulphuric acid or sulphur trioxide gas), or by ethoxylation with ethylene oxide followed by neutralisation by caustic compounds or organic amines.

Sounds scarier than it really is!!

Anyway, as shown by the diagram, the glucoside detergent molecule we will be using is formed from natural vegetable sources on both its oil and water-loving sides. We will replace the above scary sounding processes with the processing of starch from corn, potato or wheat into glucose by hydrolysis.

It couldn’t be any better!! NO surfactant compound gets better ‘natural’ credentials than this! But we KNOW you want more, so let me fill you in on some of the other attributes of glucosides:

- Irritancy test rating of LESS than 2 points out of 80 (compared to 65/80 for SLS & 20/80 for SLES)
- Lauryl glucoside: best performer in cleaning test against SLS, CAP Betaine, Cocoamphoacetate & Sulfosuccinate)
- Lauryl glucoside also shows

evidence of deep pore cleansing ability, leading us to examine it’s potential in our jené Skin Care and in Chamomile in place of SLES

- Glucosides, formulated correctly and cleverly by our team at Tri Nature, will also replicate, for the first time, the creamy foam characteristics for which the sulphates are so well known.

Good enough to wait for? Hell yes! More details next month!