



Tales from the Lab.

When is a fact not a fact?!

- by Brian McLean, Tri Nature Director of Technical Services

Let's revisit our old arch-enemy SLS for MORE examples of how irrelevant ingredient properties can be twisted for marketing purposes!

One of the strange arguments against the use of SLS in shampoos and personal care items is that one of its major uses in industry is as a degreaser and garage floor cleaner.

It IS true that SLS could be used in these types of formulations (though not often these days as it's not the best choice for that kind of product) – but so what?! It is a detergent agent – AS IS THE MAJOR INGREDIENT OF ANY shampoo, dishwashing liquid or body wash that you are now using! They ALL have a range of properties that make them suitable for MANY purposes!

Alkyl glucosides, for example, are very good degreasers. They are much more effective in garage floor cleaning products than SLS – and they are also one of the very gentle detergent families used without 'protest' in personal care products! The two uses are not linked and one does not preclude the other.

Now, what about that old chestnut Propylene Glycol? I don't particularly like its use in personal care products (and we do not use it at all) – but NOT because it can also be used as anti-freeze in auto cooling systems! And not because I know (despite some extensive searching of the literature) of any danger that it may cause. It simply has a low freezing point and a high boiling point, neither of which has anything to do with its viability as an ingredient in personal care products.

Actually, Propylene Glycol is most often NOT used as industrial anti-freeze. Ethylene glycol, a cheaper, more effective and much more toxic

compound, is the product of choice. IRONICALLY, Propylene Glycol is only used where LOW TOXICITY is required, or where spillages may come into contact with food!

So, how can I tell you that Propylene Glycol is a proven, safe solvent and that its presence in a product need not be detrimental to your long-term health and that it need not cause any of the dire problems that some sources would have you believe – whilst proponents of the "save the world from Propylene Glycol" campaign beg us to "just read the Material Safety Data Sheet" to learn the dangers of the product?!

One site (that coincidentally flogs its own brand of personal care items) says the following:

"The Material Safety Data Sheet (MSDS) for Propylene Glycol states: 'implicated in contact dermatitis, kidney damage and liver abnormalities; can inhibit skin cell growth in human tests and can damage cell membranes causing rashes, dry skin and surface damage..."

Acute Effects: May be harmful by inhalation, ingestion or skin absorption. May cause eye irritation, skin irritation, exposure can cause gastro-intestinal disturbances, nausea, headache and vomiting, central nervous system depression"

The underlined MSDS link invites you to open it up and "see for yourself" – but it will not open! If you take the long way around, you will open up the home page of www.mallchem.com, where you can indeed proceed through to the elusive MSDS.

However, the data sheet says nothing like that accorded to it by the preceding statements! Here's a few extracts of interest (and don't forget, this is talking about NEAT, UNDILUTED product):

3. Hazards identification:

CAUTION! May cause irritation to the skin & eyes.

Health rating: 0 – None

Potential Health Effects:

Inhalation: no adverse effects

Ingestion: Relatively non-toxic.

Ingestion of a sizeable amount (over 100ml) may cause gastrointestinal upset and temporary central nervous system depression. (Unlikely that you could ingest that much – you'd gag because it tastes so disgusting!)

Toxicological Information:

NTP Carcinogen Known – NO

NTP Carcinogen Anticipated - NO

Ecological Information: When released into soil or water, this material is expected to readily biodegrade.

Now, here are some excerpts from an MSDS for Essential Tea Tree Oil:

3. Hazards Identification: Harmful.

Harmful if swallowed

Irritating to eyes, respiratory system and skin (no 'maybe' here!)

Little other 'established data' is available on this ingredient.

A check of the safety data sheets of many of the herbal essential oils that everyone embraces as 'natural, gentle and effective', will give similar or more strident warnings than this!

Why condemn a product with established harmless effects in favour of one about whose effects we know comparatively little?!

The small 'dangers' of Propylene Glycol and of many essential oils, herbal extracts and other components, disappears when they are diluted and absorbed into a well formulated finished product.

That ethanol is a major component of glass cleaners and many other industrial products does not prevent us from enjoying a pleasant (and healthy) glass of wine of an evening, does it?!