

animal, vegetable or mineral

I had a call the other week from my boss (SWMBO) during which she asked me if I could write a memo on vegan paints - apparently, they have been highlighted lately subsequent to the Duchess of Sussex's decision to use such in the new royal nursery. I replied "Of course, as soon as I find out what a 'vegan paint' is!" The research led down some very interesting by-ways!

The vegan movement is much deeper than I was aware of, encompassing far more than simply refusing to eat the limbs of animals, but extending into all areas which benefit from the exploitation of animals. Their concerns broadly fall into two areas - the use of products derived from the animal itself (or the products of living animals), or products, the manufacture of which causes distress to animals. We will look at these areas separately.

Incidentally, as your scribe is a non-vegan, he would welcome any feedback in areas where he has misunderstood the vegan philosophy.

When early man (please don't take this as a sexually biased phrase) killed a mammoth, they didn't just simply eat the meat but used every part for which they could find a use. Incidentally, my first day's work (in the 50s) was in the abattoir of the local family butcher, and I note that nothing had changed over the millennia, with every bit of the carcass being used. This included proteins extracted from non-edible portions (such as gelatine and animal protein glues), the gall contents which contained surfactants, stomach content (especially from calves) which contained rennet bones from which bone black could be made and many other materials which you really wouldn't want to read about - especially in such a sensitive communication as this!

As house paint for the hoi polloi is a relatively new phenomenon, the uses of these products in paints were mainly confined to artist's colours and are of more historical interest.

The application of these paints also causes vegan concern as fur and bristles from squirrel, camel, hog etc were, and

are, all used. The use of natural sponges is also concerning to the vegan. Hog bristle, although being steadily replaced by better synthetics, is still mainstream in house painting.

So, my first thoughts were that we are, pretty much, vegan friendly - until I thought about 'Sentinel'. 'Sentinel', now deleted from our product range, was our 'ever slippery' intruder resistant paint, which we could have based on petroleum jelly, but which we (me) decided to base on lanolin. The decision was made in an era which favoured 'natural' products, used a NZ based raw material and, by serendipity, had a very identifiable 'farmyard' smell!

We could, relatively easily, have reformulated this product onto an oil-based synthetic medium but it does highlight, for me, the situation where our 'green' customers would prefer the lanolin route while our 'vegan' customers would prefer the petroleum way.

This conflict came up many times in my research including such things as diverse as milk paints, the use of beeswax and the use of shellac.

Shellac is a very interesting polymer with a unique set of properties. Shellac has been known from ancient times and its range of past and present uses is wide. It has been used for everything from making false teeth, sealing wax, electrical insulation, gramophone records to a coating for pills and lollies! In the coatings industry it has been used for knotting compounds, universal primers, sealers and wood finishes including the very finest French Polishes.

Shellac is a secretion from a bug that lives on trees within the forests of India and Thailand. The bug secretes the shellac to form protective 'tunnels' through which it can traverse the branches and feed in safety. The shellac is harvested by collecting the scrapings for the branches, filling a long canvas 'sock' with the scrapings, warming it to melt the shellac then recovering it by twisting the sock and squeezing the molten shellac out.

The bugs caught up in the harvest are innocent, collateral damage and hence a concern for vegans.

continued overleaf...

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I was interested in my own reaction to this and how I view insects in general - even knowing their importance in the scheme of things. Although I do get 'warm fuzzies' at bees, beautiful butterflies and dragonflies I will unthinkingly and unhesitatingly exterminate nuisance flies, wasps, ants, mosquitos, cockroaches etc. Such actions would be unthinkable to the followers of several religions, Buddhism probably being the most pre-eminent.

Shellac does have its drawbacks (such as its solutions not being stable for long periods) and it can be difficult to handle. We, along with the majority of the coatings industry, have found alternatives to its use.

One of the most ubiquitous animal products which pervades our world is animal (primarily beef) fat. The fat, as such, has few non-food uses - primarily used in salves, for lubrication and for lighting in the form of candles or lamps. (The use of animal fat grease [in this case pork fat] was a significant cause of the Indian Revolution as it was used on gunpowder cartridges which had to be opened by tearing them with one's teeth. This was anathema to the Muslim sepoys just as the rumoured content of beef fat was totally against the Hindu religion.)

However, the raw fat, through a process of rendering which removes water and protein, becomes tallow. The tallow can then be further processed creating a major source of glycerine and, in beef, three main fatty acids, stearic (c.21%), palmitic (c.27% and is exactly the same chemistry as the main ingredient in palm oil) and oleic (c. 36% and is exactly the same chemistry as the main fatty acid in olive oil). These fatty acids are extremely useful chemical building blocks and can be used interchangeably regardless of source.

When fatty acids are reacted with metals they form soaps which, depending on the ratio of fatty acid to metal and the types of metal used, turn up in a huge range of products ranging from toiletries and cosmetics, greases and lubricants, thickeners and biofuels - the list literally goes on. In cosmetics, where labelling of ingredients is both

mandatory and obfuscatory the words stearin, stearic acid, stearate, tallow and tallowate will indicate products from an animal source.

When we purchase raw materials that are single items, we can determine whether the product is animal sourced or not but many of our raw materials have already been through processes and have recipes that are highly protected trade secrets. If an ingredient is not listed as hazardous there is no obligation to reveal it and hence we, and any other user of that ingredient, may unknowingly be using some animal derived content.

I felt that the second part of this memo would be simpler as we pensioned off our donkey-powered paint mill before even I was born - with the subsequent savings in carrots. Further, I am unaware of any paint manufacturer (certainly in NZ) who test their paints on animals. Well, there is product used on cows called 'Tail Paint' which helps the dairy farmer to follow his cows through oestrus, but we don't service that market - boom boom!!

New molecules that are offered to the market must be rigorously tested for eco-toxicity, marine toxicity and mammalian toxicity along with eye, skin, nasal and pulmonary irritancy. The release of untested, toxic material onto the market would be unconscionable. While paint manufacturers could take a 'holier than thou' attitude from a position that we don't do such testing ourselves, our customers and us all benefit from the work others do to prove the safety of new materials. While I cannot think of any way of establishing mammalian toxicity without killing mammals, I don't have to accept man's primacy without feelings of disquiet. I don't see a way around it, but I do see the vegan's point of view

When it comes to paint, use of a waterborne paint and application with a synthetic brush or roller is likely to be the best option for a vegan to choose, which also handily provides the wellness and environmental benefits of reduced VOCs, solvents and lower odour.



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