

# SMOOTHING THE PATH TO ORGANIC BEAUTY

**Barbara Oliosio** discusses the three biggest challenges when formulating organic cosmetic products and suggests ideas to 'un-complicate' the process

**O**rganic is growing in popularity and gradually becoming more mainstream. However, despite this popularity and consumers' somewhat romantic vision of 'organic', in the formulator's laboratory it is a different story: quite far from romance and closer to a drama, although always enjoyable.

After nearly 20 years' experience in the laboratory, I will share three recent challenges faced in my organic development projects.

## 1. BEWARE VEGAN RED TAPE

Veganism is growing steadily in the UK and Europe, yet when its demands are combined with organic and natural criteria it extends the amount of red tape for raw materials.

A few years ago, having a simple statement saying the raw material does not contain animal derivatives and is not tested on animals was sufficient for vegan accreditation. But now the boundary has been extended to include manufacturing process 'accessories' such as enzymes, and 'vegan' involves more complex statements and disclosure on the supplier's part.

So, what was my latest experience with vegan red tape? I was working on a skin care project, formulated according to the COSMOS standard and with the extra vegan requirement. I carefully selected the ingredients using COSMOS approved or compliant organic raw materials. During the selection process, I asked suppliers for confirmation their materials were vegan, even getting official statements.

Once finalised – with the formulas and stability and challenge tests completed – it was time to get the vegan accreditation in place. That was when I got a nasty surprise. I submitted all the ingredients' details, including the statements I'd gathered, thinking all would be well, but I received an unexpected response.

There was no animal material involved in the manufacturing process, so there should have been no issue. However, an ingredient that was

structural to the formula and manufactured via a fermentation process was "too generic" for the vegan accreditation body. On top of that they wanted extra details on the fermentation process itself.

After various negotiation efforts, which added quite some time to the project, the supplier agreed to provide the detailed information requested and a different statement – ultimately resulting in a satisfactory conclusion.

**Lesson learnt:** If you are after vegan accreditation by a third party, make sure you know at the beginning of the project what the specific criteria are and whether the supplier can provide a statement suitable for the accreditation body you have selected. Be prepared to disclose extra information or adjust statements to meet requirements.

## 2. GET READY TO NUMBER CRUNCH

After a slow start, the COSMOS standard is now gaining momentum, with in excess of 8,000 products certified across more than 600 brands. However, the complexity behind the standard affects formulas and their components.

Indeed, when I formulate according to the COSMOS standard I need to wear a special pair of glasses, my 'COSMOS glasses'! These glasses allow me to see and evaluate the formula for COSMOS compliance.

Every ingredient needs to be broken down into the COSMOS categories – petrochemical moiety (PeMo), physically processed agro-ingredient (PPAI), PPAI organic, chemically processed agro-ingredient (CPAI), CPAI organic and non-natural ingredient (NNI) – and the corresponding percentages given to make sure all the rules are followed. For example, there is a maximum petrochemical content (PeMo) of 2% for all COSMOS products. This means the ingredient content with a PeMo part needs to be managed in order to keep the PeMo below 2%.



# formulating organics



**Following a green certification is a much harder route than it appears and might not lead to a better product**

Products following the COSMOS organic standard have additional 'ties' to deal with organic ingredients, such as finished product minimum organic percentages; compulsory organic ingredients; and minimum organic percentage for physically derived ingredients.

So if you make a leave-on organic formula that contains only PPAIs, like a body oil, even if the minimum organic percentage for the finished product is 20% (the general rule is 20% minimum organic for leave-on products), you will need to have at least 95% organic content in the finished product, as all the ingredients are considered PPAIs. This can be an issue depending on the ingredients you wish to use.

These rules add an extra dimension to the formula – one essentially made by numbers, adding on top of costing, regulatory compliance and product performance. I use the 'COSMOS glasses' at the beginning of the formula development process to assess the green status of a formula in my R&D projects.

**Lesson learnt:** It is important to understand and to explain to your marketing team the extra dimension behind certification before starting development projects requiring organic or natural certification, so that you can choose the standard that is right for you, or you can choose to avoid certification altogether.

Formulating green is hard and following a certification, even if it gives extra credibility for consumers, is a much harder route than it appears and might not lead to a better product.

Be clear about the type of certification that is best for the project and the brief. If you wish to know more about COSMOS certification from a formulator's perspective, I run an online course on the SpecialChem platform on this very topic.

## 3. THE CLEAN PRESERVATION CONUNDRUM

When I start new projects and meet with clients, I often hear "we do not want any chemicals", which to my green chemist ear translates into "free from petrochemicals". This is when I start explaining about the different shades of natural, ie natural as nature intended, naturally derived (where there is chemical modification) and hybrids (molecules that are partly natural and partly petrochemical). This helps people to understand that making cosmetics is not as simple as cooking a soup. This desire for natural and 'clean' shows a growing trust in plant-derived products without petrochemicals.

The most common petrochemicals found in cosmetics are preservatives and very often the 'free from' claim related to preservatives (paraben-free, MI-free, formaldehyde-free, etc) has become a shortcut for 'natural' in the consumer's mind. I do not wish to dive into the preservatives controversies here, but everybody knows that cosmetics must be microbiologically safe and pass the relevant tests. So, what then?

A new trend finds the sweet spot between the consumer's demand for naturally-derived products and products' safety requirements. This is based on using plant-derived, multifunctional ingredients with antimicrobial properties; there are several formulations on the market containing these ingredients. They can have moisturising, conditioning and antioxidant properties at the same time, as well as specific antimicrobial properties.

As a result, they may need blending to achieve broad protection and there is also a budgeting consideration because of the higher costs involved when working with plant materials.

**Lesson learnt:** When asked to formulate '100% natural' or 'clean' it is essential to have a reality check, ie do they just 'talk natural' or do they really want natural? This will help to manage claims, expectations and costs at the very beginning of the project.

If they really want natural, it is important to search for multifunctional plant-derived ingredients that are relevant to the product application and explain to the project manager that there is a higher cost involved ●

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