

BIOCHEM show case

Define what a “natural” ingredient is

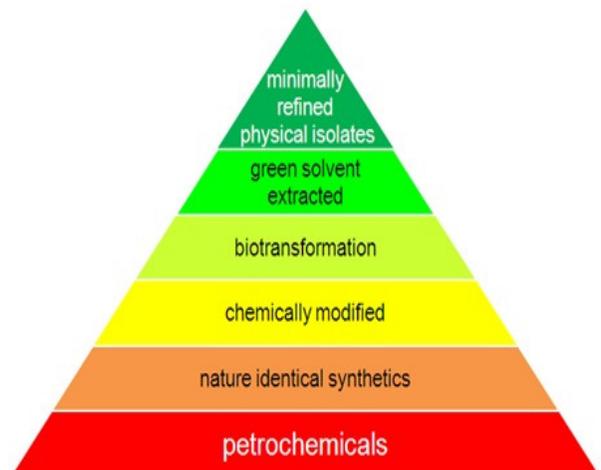
Problem

In the past, herbs, botanicals, fruit extracts, essential oils and natural minerals were the main ingredients for beauty products. Today, demand is growing for plant-based ingredients, as consumers increasingly view natural products as healthy, environmental friendly and renewable. As a result the natural personal care market has seen growth of 15% per annum, the fastest in the personal care sector. This opens up the question of how “natural” is natural and drives the needs for consistent measure of greenness.

Technical solution

The following diagram is one example of a hierarchy of naturalness. Used in the personal care sector, the higher up the pyramid, the higher the justification of an ingredient as natural.

A company will have to decide where they draw the threshold for justifying the naturalness of the ingredient based on such a hierarchy. Increasingly however the legislation is setting this definition. For example, from 20th January 2011, the EU changes the Regulation on flavourings (change from EU88/388 to EC1334/2008). The terms nature identical or artificial flavourings substances will no longer be used and a definition for natural flavouring substance obtained by appropriate physical, enzymatic or microbiological processes from material of vegetable, animal or microbiological origin either in the raw state or after processing for human consumption [...] Natural flavouring substances correspond to substances that are naturally present



and have been identified in nature... It is clear that bio-based routes to ingredients are being flavoured by legislation and new market opportunities are resulting.

Strategies

Ideas for using natural ingredients include:

- Exploit the bio-based functionality of a natural substance (e.g. antiseptic, lubricity, etc)
- Use bio-based routes to ingredients
- Use physical processes to extract ingredients
- Avoid environmentally damaging methods to obtain natural ingredients
- Use managed sources for the natural ingredients
- Demonstrate the traceability of the ingredient

Commercial examples

Cognis Care Chemicals (Green Chemicals Solutions/ BASF) system, which categorizes the company's care Chemicals ingredients into different levels of naturalness.

Croda green ingredients ranges

<http://www.croda.com/home.aspx?d=content&s=157&r=268>

Global retail sales of personal care products in 2009 totaled \$437bn and are forecast to grow 3.5%/year to 2014, according to market analyst Datamonitor. Sales of such products from manufacturers to retailers are estimated to be \$197bn of which natural and sustainable products account for only 9-10%, but anticipated to grow 12%/year through 2014, according to consultancy firm Kline.

Partnerships for better
innovation support



Eco-Innovation
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Additional information

REGULATION (EC) No 1334/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008

on flavourings and certain food ingredients with flavouring properties for use in and on foods and amending Council Regulation (EEC) No 1601/91, Regulations (EC) No 2232/96 and (EC) No 110/2008 and Directive 2000/13/EC

(Text with EEA relevance)

Website

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:354:0034:0050:en:PDF>