



Sustainable formats in Personal Care

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Current climate in Cosmetics

- Within the consumers, manufacturers and regulators of cosmetics products, there is a shift towards more natural and eco conscious formulations.
- COSMOS, COSMetic Organic and Natural Standard (COSMOS, 2019) and ISO16128 (ISO16128, 2016) define 'natural', 'organic' and percentage natural claims.
- Customer requests are increasingly focused on products which are natural, organic, have a high natural percentage and free from ingredients with negative perceptions (PEGs, parabens, silicones)
- In Germany and Italy 60% of adults have not used water-free beauty and personal care products, but are interested in trying them (Mintel, 2019)



Environmental Sustainability

- Water consumption is increasing our carbon footprint due to the energy needed to pump and treat water, as well as manufacture the treatment agents (South Staffs Water, accessed Dec 2019)
- Due to recent media attention and bans on single use and micro plastics, consumers are aware that plastic is polluting the environment. 50% of consumers surveyed have avoided a product based on a company's responsible reputation (Hannah Coles, accessed Dec 2019)
- Plastic pollution is harmful because:
 - Long degradation time
 - Substances leeching from waste
 - Affects animals and their habitat (Plastic Pollution Coalition, 2018)



Sustainable Formulations

How can we change our current formulations to satisfy the modern eco conscious consumer?

We need to produce formulations which are:

- Low water
- Less or no packaging
- Sustainable starting materials (RSPO, MB)



(RB, 2019)



Formulations



Compressed Shampoo Bars

H0125



Ingredient	%w/w
Pureact TR-L90 (Innospec)	q.s. 100.00
Activsoft CD (Innospec)	0.30
Reflecks™ Gleams of Gold G230L (BASF)	0.60
Coconut Oil	3.00
Aqua	3.00
Empigen® BS/H50 (Innospec)	3.00
Coconut Fragrance (Bell Fragrance)	0.30

H0111



Ingredient	%w/w
Pureact TR-L90 (Innospec)	92.70
Activsoft CD (Innospec)	0.30
Aqua	3.70
Empigen® BS/H50 (Innospec)	3.00
Rhubarb and Rose (Azur Fragrances)	0.30

H0058



Ingredient	%w/w
Iselux® (Innospec)	93.50
Empigen® BS/FA (Innospec)	3.00
Pureact WS Conc (Innospec)	2.00
Natrlquest® E30 (Innospec)	1.00
Flocare C107 LMPF (SNF)	0.50
Vibracolor violet PV123-L (Sensient)	0.10
Rhubarb and Rose (Azur Fragrances)	0.30

Compressed Single Use Bar

INCI ingredients	Trade name (supplier)	% w/w
Microcrystalline cellulose		25.00
Sodium Lauryl Sulfate	Empicol LZ/N (Innospec)	42.80
D-Mannitol		25.00
Guar Hydroxypropyltrimonium Chloride	Activsoft CD	0.30
Water		3.60
Cocamidopropyl Betaine	Empigen BS/FA (Innospec)	3.00
Fragrance		0.30



Powder to Foam Face Wash

INCI ingredients	Trade name	% w/w
Aleurites Moluccanus Seed Oil	Kukui nut oil	5.0
Sodium Cocoyl Glycinate	Pureact SCG	5.0
Parfum	Fleurs du Paradis	q.s.
Sorbitol	-	5.0
Allantoin	-	2.0
Kaolin	-	Up to 100
Sodium Cocoyl Isethionate	Pureact I-78	12.5
Sodium Methyl Cocoyl Taurate	Pureact WSP	17.5
Colours		4.00



Small but Mighty Shampoo Butter

INCI name	Trade name	%w/w
Aqua	-	4.90
Glycerin	-	41.00
Guar Hydroxypropyltrimonium Chloride	Activsoft C-17 (Innospec)	0.20
Glycerin	-	4.00
Citric Acid (50% w/w solution)	-	Trace
Sorbitol	-	8.00
Sodium Lauroyl Methyl Isethionate	Iselux® (Innospec)	17.50
Trisodium Ethylenediamine Disuccinate	Natrlquest® E30 (Innospec)	1.50
Argania Spinosa (Argan) Kernel Oil	Argan Oil (Naissance)	4.00
Tocopheryl Acetate	Vitamin E Acetate	0.50
Sodium Cocoyl Isethionate	Pureact I-78 (Innospec)	12.50
Dimethicone (and) Laureth-4 (and) Laureth-23	Emulsil® DME-504 (Innospec)	4.00
Fragrance	Argan Luxury	0.50
Phenoxyethanol	-	1.00
Benzyl Alcohol	-	0.40



Charcoal Cleanse and Shave Stick

INCI name	Trade Name (Supplier)	%w/w
Aqua	-	14.2
Glycerin	-	46.00
Sodium Cocoyl Methyl Isethionate (80%a)	Iselux® SCMI (Innospec)	1.50
Sodium Methyl Lauroyl Taurate (90%a)	Pureact TR-L90 (Innospec)	4.00
Maltodextrin	Maltodextrin (Sigma-Aldrich)	1.00
Macadamia Integrifolia Seed Oil	Macadamia Nut Oil	2.80
Euphorbia Cerifera (Candelilla) Wax	Candelilla wax	3.00
Sodium Cocoyl Isethionate (78%a)	Pureact I-78 (Innospec)	25.00
Charcoal	Activated Charcoal Powder (The Soap Kitchen)	0.50
Phenoxyethanol	-	1.00
Fragrance	Pomette (Azur Fragrances)	1.00



Summary

- Consumers are becoming more aware of their environmental impact which is having an effect on the trends and direction of the personal care industry
- Formulations with low water content reduce the energy expenditure and carbon footprint of the formulations as well as reduces stress on the world's water reserves
- Concentrated formulations also reduce carbon footprint as less space is required to ship products
- Reducing plastic and packaging on formulations can be achieved by making solid formulations which inherently do not require the same level of packaging



References

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