



**CAMPAIGN
FOR CLARITY**

soil *Association*

**COME CLEAN
ABOUT BEAUTY**



Executive Summary

Greenwashing is rife in the health and beauty industry, despite previous Soil Association campaigns which have raised awareness of this problem amongst brands and consumers. Our new investigation has produced a league table of uncertified products which are using the term organic on the labels, and consumer research which provides clear evidence that people feel misled by this. We're calling on brands to Come Clean About Beauty labelling and use the terms organic and natural responsibly or not at all.

We found a range of uncertified health and beauty products with potentially misleading labels which use the terms organic or natural. We showed some of these labels to an independent panel of 1,000 consumers and the majority (76%) said they felt misled when they found out the product was not certified and would not meet organic standards. When they discovered this, most people (72%) also said they would lose trust in the brand.

PRODUCT

WORST SCORE HIGHER (OUT OF 25)

①	Boots Beautiful Hair Moisturise & Nourish Shampoo With Added Organic Argan Oil	19	
②	COOLA Makeup Setting Spray Green Tea & Aloe	14	
③	Aloe Pura Organic Aloe Vera After Sun Lotion	14	
④	Rituals Heavenly Hamman Organic Argan Oil and Eucalyptus Revitalising Bath Oil	14	
⑤	COOLA Pina Colada Sunscreen Spray	13	
⑥	Korres Basil Lemon Shower Gel with Organic Althea Extract	11	
⑦	Aloe Pura Organic Aloe Vera Gel	11	
⑧	Korres Fig Shower Gel with Organic Althea Extract	10	
⑨	Dr Organic Organic Moroccan Argan Oil Shampoo	10	
⑩	Dr Organic Organic Dead Sea Mineral Night Cream	10	
⑪	Faith In Nature Raspberry & Cranberry Shower Gel & Bath Foam with Organic Fruits	10	
⑫	Faith In Nature Pomegranate & Rooibos Hand Wash with Organic Pomegranate	9	
⑬	The Organic Pharmacy Sweet Vanilla Dry Oil	9	

Scope

We have not been able to do a comprehensive survey of all beauty products, but our limited research found 13 products from eight different brands that have labels which could suggest to consumers that they are wholly or mainly organic, yet are not independently certified. Several of these products are from brands with one or more ranges which are all labelled in a way that consumers said they found misleading.

This means there are hundreds or even thousands of products for sale on UK high streets which make organic claims but contain ingredients which would not be permitted in a certified organic product. We are clear that risking misleading consumers in such a sensitive area as beauty products, even in one case, is completely unacceptable. The confusing terms on the labels we encountered suggest that it is often very difficult for consumers to know they are making the right choice when doing their shopping.

The halo effect

Our research findings show a direct link between what is on the pack and what people say they think about a product. It is clear from the results of this survey that the use of the word organic on the label has a positive effect on what people think about the whole of the product – with most consumers saying they would assume an organic product was sustainably made and that they were doing the right thing for the environment by choosing it.

Some of the labels state that one or more ingredients are organic in a way which suggests positive attributes for the rest of the product. While it is obviously a good thing for a manufacturer to be using any organic ingredients, we do not think it is right for companies to highlight that particular organic ingredient on the front of the packaging when only a very small amount is actually present in the product.

The majority of people (77%) said they would feel reassured if the product was certified organic and carried a verified symbol. We think that brands know this, because a number of them use a logo of some form or another on their labels, to describe the presence of organic ingredients. Consumers also told us they would think more positively about the brand if the product was genuinely certified organic.

Brands and retailers should take note

Consumers clearly told us that the misuse of the term organic damages their faith in brands and the retailers that sell them. Most people (72%) said they would lose trust in the brand if they found out that a product which said organic on the label was not certified and could not meet organic standards. 64% of people said they would lose trust in the retailer.

The majority of people (69%) also felt strongly that this sort of misleading labelling should be against the law. However the product labels and the ingredients they contain are all legal. While the term organic is regulated in relation to food and drink on sale in the UK and the EU, there is no legislation in place for the use of the terms organic and natural in relation to health and beauty products. We want to change this, so we are asking people to sign our petition which calls on the brands in our league table to truly Come Clean About Beauty and use the terms organic or natural responsibly or not at all.

Price is not an issue

We found that certified organic products often cost less per 100ml than the uncertified products which are making organic and natural claims. For nine out of the 13 products included here we found a certified organic alternative which costs less per 100ml. Even for the four products where the organic alternative costs more, the difference in price is £1.50 per 100ml or less. By contrast, one of the uncertified products which claims to be organic costs £7.22 more per 100ml than a certified organic alternative.

In the Product Profiles section of this report, we suggest a certified organic alternative for each of the products featured. The basis of these suggestions is that the products are widely available in the UK at a competitive price and independently certified to a recognised standard. We are not saying these products contain similar ingredients or function in exactly the same way; they are simply suggestions of certified organic alternatives that consumers might like to consider.

Ingredients which would not be permitted in a certified organic product

This report contains a snapshot of the products we found which contain ingredients that would not be permitted by an independent international organic and natural health and beauty standard such as COSMOS. When we had identified these ingredients, they were assessed by an independent expert toxicologist who advised us of their potential impacts in wider use on human health and the environment. Together we came up with the Terrible Ten – a list of ten ingredients which consumers should look out for – and which would never be permitted in a certified organic product.

There are European standards which require all ingredients used in cosmetic products to be safe, and limits for the amounts of some ingredients which can be used are set to ensure this. So we are not suggesting that the inclusion of any of these ingredients in the products listed means that those products are unsafe. We are talking about the impacts that some of these ingredients have been found to have in wider use – that is when used in higher doses and other product types or applications.

Organic standards aim to encourage the use of ingredients which are organic, sustainable and biodegradable, and most consumers said they felt misled when they found out that products which claim to be organic contained ingredients which would not be permitted in a certified product. This shows that the brands which are doing this are in danger of exploiting the reassurance that consumers seek when they choose an organic product. The majority of people (74%) told us they would feel like they were choosing a product which was free from nasties if it said organic on the label.

Consumers who want to protect themselves from greenwashing claims such as these should look for a genuine logo which proves the product has been independently certified. For example, the COSMOS or the Soil Association, Natrue and NSF-ANSI all have strict standards for beauty products, and would not allow a chemical on the Terrible Ten list to be used in a certified product.

The Terrible Ten

Our research found the following Terrible Ten ingredients in health and beauty products which mention organic on the label, but are not certified organic:

1. Ethyl hexylsalicylate
2. Homosalate
3. Imidazolidinyl urea
4. Octinoxate
5. Octocrylene
6. PEGs: PEG-7; PEG-12; PEG-40; PEG-200
7. Polyquaternium 7
8. Polysorbate 20
9. Red 17 artificial colour 26100
10. Retinyl palmitate

The ingredients are listed in alphabetical order. Further information on the possible effects of each of the ingredients, and the products in which we found them, is included in Section 4 of this report.

Research methodology

We worked with an independent researcher to find health and beauty products which claim to be organic, but are not independently certified. We reviewed the ingredients panel for each product and identified whether there were any ingredients which would not be permitted in a certified organic product, using the international COSMOS standard as a benchmark. We then worked with a leading independent toxicologist, Emeritus Professor Vyvyan Howard, to identify the Terrible Ten ingredients found in these, and other non-organic products, which are chemicals that in general use are potentially most harmful to human health and the environment.

Following this we undertook some independent consumer research. The researchers spoke to 1000 women across the UK between the ages of 18-65, and a nationally representative sample of socio-demographic grades, employment status and regional representation. All participants were regular buyers and users of a wide range of everyday health and beauty products from body or face washes to after sun creams or sprays. The research was conducted online by market research and brand building company, The Crow Flies Ltd., between 31st March and 4th April 2017.

Contents

1. Come Clean About Beauty League Table:

This shows the 13 uncertified health and beauty products we found which are labelled in ways that could mislead consumers, and contain undesirable ingredients, including those from the Terrible Ten.

2. Product profiles:

Details of the products we found which we think are labelled in ways that could mislead consumers because they mention organic ingredients or use organic on their main labels, yet contain ingredients which would not be permitted in independently certified organic products.

3. Consumer research:





An outline of the findings of the independent research undertaken as part of this campaign.






4. Terrible Ten Overview:





A summary of each of these ingredients and the impacts they could have.

5. Terrible Ten datasheets:

The scientific evidence provided by independent toxicologist Emeritus Professor Vyvyan Howard.

Brand	Product	Total score /25	Thumbs down	Terrible Ten ingredients	Comments
Boots	Beautiful hair moisturise & nourish shampoo with added organic argan oil	19		<ul style="list-style-type: none"> • PEG-40 • PEG-200 • Polyquaternium-10 • PEG-7 • Polyquaternium-7 • + 1 ingredient not permitted in a certified organic product. 	<ul style="list-style-type: none"> • The organic statement stands out on the front of the bottle but it only refers to one ingredient, the argan oil. • Only a tiny amount of organic argan oil is actually included in the product. • The product contains five ingredients from the Terrible Ten and contains one additional ingredient that would not be permitted in a certified organic product.
COOLA	Makeup setting spray Green Tea & Aloe	14		<ul style="list-style-type: none"> • ethylhexyl methoxycinnamate (octinoxate) • homosalate • ethylhexyl salicylate (octisalate) • + 4 ingredients not permitted in a certified organic product. 	<ul style="list-style-type: none"> • This product says ORGANIC SUNCARE prominently on the front. • It contains three ingredients from the Terrible Ten and four additional ingredients which would not be permitted in a certified organic product.
Aloe Pura	Organic Aloe Vera After Sun Lotion	14		<ul style="list-style-type: none"> • Retinyl palmitate • + 5 ingredients not permitted in a certified organic product. 	<ul style="list-style-type: none"> • The label states ORGANIC in large letters which suggests it applies to the whole product, not just the aloe vera, which is the main ingredient. • This product includes one ingredient from the Terrible Ten and five additional ingredients which would not be permitted in a certified organic product.
Rituals	Heavenly Hammam Organic Argan Oil and Eucalyptus revitalising bath oil	14		<ul style="list-style-type: none"> • ci 26100 (red 17) • ethylhexyl salicylate • + 6 ingredients not permitted in a certified organic product. 	<ul style="list-style-type: none"> • The label states Organic Argan & Eucalyptus but these are not major ingredients. • This product contains two ingredients from the Terrible Ten and six additional ingredients that would not be permitted in a certified organic product.

Brand	Product	Total score /25	Thumbs down	Terrible Ten ingredients	Comments
COOLA	Pina Colada sun-screen spray	13		<ul style="list-style-type: none"> • ethylhexyl methoxycinnamate (octinoxate) • ethylhexyl salicylate (octisalate) • octocrylene • + 2 ingredients not permitted in a certified organic product. 	<ul style="list-style-type: none"> • This product makes two organic claims on the front of the packaging: ORGANIC SUNCARE in a silver band and 70%+ organic ingredients. • It contains three ingredients from the Terrible Ten and two additional ingredients which would not be permitted in a certified organic product.
Korres	Basil lemon shower gel with organic althea extract	11		<ul style="list-style-type: none"> • Imidazolidinyl urea • Polyquaternium-7 • + 4 ingredients not permitted in a certified organic product. 	<ul style="list-style-type: none"> • The label states 'with organic althea extract' and '89.2% natural content'. • This product contains two of the Terrible Ten ingredients and four additional ingredients that would not be permitted in a certified organic product.
Aloe Pura	Organic Aloe Vera Gel	11		<ul style="list-style-type: none"> • None, but contains 4 which would not be permitted in a certified organic product. 	<ul style="list-style-type: none"> • The label states ORGANIC in large letters which suggests it applies to the whole product, not just the aloe vera, which is the main ingredient. • This product does not include ingredients from the Terrible Ten but contains four ingredients which would not be permitted in a certified organic product.
Korres	Fig shower gel with organic althea extract	10		<ul style="list-style-type: none"> • imidazolidinyl urea • polyquaternium-7 • + 3 ingredients not permitted in a certified organic product. 	<ul style="list-style-type: none"> • The label states 'with organic althea extract' and '90.4% natural content'. • This product contains two of the Terrible Ten ingredients and three additional ingredients that would not be permitted in a certified organic product.
Dr Organic	Organic Moroccan Argan Oil Shampoo	10		<ul style="list-style-type: none"> • None, but contains 2 which would not be permitted in a certified organic product. 	<ul style="list-style-type: none"> • Organic appears prominently twice on the front of the packaging for this product. • This product does not include ingredients from the Terrible Ten but contains two ingredients which would not be permitted in a certified organic product.

Brand	Product	Total score /25	Thumbs down	Terrible Ten ingredients	Comments
Dr Organic	Organic Dead Sea Mineral Night Cream	10		<ul style="list-style-type: none"> None, but contains 2 which would not be permitted in a certified organic product. 	<ul style="list-style-type: none"> Organic appears prominently twice on the front of the packaging but this product contains a large proportion of salt which cannot be certified organic. This product does not include ingredients from the Terrible Ten but contains two ingredients which would not be permitted in a certified organic product.
Faith in Nature	Raspberry & cranberry shower gel & bath foam With Organic Fruits	10		<ul style="list-style-type: none"> Polysorbate 20 + 1 ingredient which would not be permitted in a certified organic product. 	<ul style="list-style-type: none"> The label states 'With organic fruits' but no further information is given about which fruit or how much. Also includes a logo which shows 'Certified Organic Ingredients'. The brand name and the term 'Natural Skincare' suggest the entire product is natural, but it contains an artificial ingredient which is also one of the Terrible Ten. Also contains one additional ingredient which would not be permitted in a certified organic product.
Faith in Nature	Pomegranate & rooibos hand wash With Organic Pomegranate	9		<ul style="list-style-type: none"> Polysorbate 20 +1 ingredient which would not be permitted in a certified organic product 	<ul style="list-style-type: none"> The label states 'With Organic Pomegranate' and includes a logo which shows 'Certified Organic Ingredients'. The brand name and the term 'Natural Skincare' could suggest the entire product is natural. The product contains an artificial ingredient which is one of the Terrible Ten and one additional ingredient which would not be permitted in a certified organic product.
The Organic Pharmacy	Sweet Vanilla Dry Oil	9		<ul style="list-style-type: none"> None, but contains 1 which would not be permitted in a certified organic product 	<ul style="list-style-type: none"> 'The Organic Pharmacy' brand name could potentially mislead consumers because it suggests that the product is organic. This product does not include ingredients from the Terrible Ten but contains two ingredients which would not be permitted in a certified organic product.

Scoring methodology

Nasty ingredients – with a maximum score of 15:

The presence of one of the Terrible Ten attracts a score of 2, with a maximum of 5 Terrible Ten ingredients appearing in any one of these products. Ingredients which would not be permitted in a certified organic product (using the international COSMOS standard as a baseline) attract a score of 1 point each in this category.

Prominence of claims – scored out of 5:

The larger and more obvious the organic claim on the packaging, the higher the score. Products which make a claim about an ingredient only attract a lower score. If the product makes more than one claim, e.g. organic and natural, or the brand name includes the words natural or organic, it scores more highly. Products which include a logo which could potentially mislead consumers also score more highly.

Guidelines

5 points: Claims the whole product is organic very prominently on the front of the packaging, or in the brand name. Includes one or more logos which could lead consumers to believe the whole product is certified.

4 points: The organic and/or natural claims are prominent on the front of the packaging. May include a logo which could suggest to consumers that the product is certified.

3 points: The organic or natural claims may refer to one ingredient or the whole product but in our opinion, it is likely that consumers would believe they indicated the whole product is organic or may find them otherwise misleading.

2 points: Includes an organic claim which refers to one or more ingredient(s) but not the whole product. May not state which ingredients are organic or natural in the ingredients panel.

1 point: Organic claim is very small and/or only relates to one ingredient.

Availability of products score:

the more widely available the products, the higher the number of consumers who could be misled. For this score we considered whether or not products are available on most UK high streets, or just in specialist outlets. Products which are available internationally also attracted a higher score.

Guidelines

5 points: products available in the world's largest chain of chemists meaning they can be bought on the high street in most UK towns and cities

4 points: available on most UK high streets, or widely available internationally

3 points: available in larger stores in UK towns and cities and/or health food stores in most towns

2 points: available in some health food stores or only in capital cities and/or some international availability

1 point: only available online or in specialist shops.

Product Profiles



Boots Beautiful Hair Moisturise & Nourish Shampoo with added Organic Argan Oil



What's the problem?

Argan oil is the 14th ingredient out of 16 listed in the product, so 13 ingredients are in the product in greater quantities, yet Boots are using the fact that the argan oil is organic to market the product using a star and stating 'Added ORGANIC ARGAN oil' in large letters on the front of the product. We think it could mislead consumers to use the organic argan oil to sell the product in this way, when the shampoo obviously contains only a small amount (cosmetics ingredients must be listed in order of the amount included in the product).

This product contains five different nasty ingredients from the Terrible Ten list: PEG-40, PEG-200, Polyquaternium-10, PEG-7, and Polyquaternium-7. In wider use, these ingredients can cause allergies, could damage your immune system, and may be toxic to the environment.

What's in it?

Aqua (water), Sodium laureth sulfate, Cocamidopropyl betaine, Sodium chloride, PEG-40 hydrogenated castor oil, Panthenol, PEG-200 hydrogenated glyceryl palmate, Sodium benzoate, Polyquaternium-10, Parfum (Fragrance), Dipropylene glycol, Glyceryl laurate, PEG-7 glyceryl cocoate, Polyquaternium-7, Citric acid, Argania spinosa (Kernel) oil, Alpha-isomethyl ionone, Geraniol, Limonene, Linalool.

Our assessment of the ingredients against the

international COSMOS standard

- In a certified organic product, Argania spinosa (Kernel) oil would have to be organic and the percentage of organic ingredients would have to be shown on the packaging.
- PEG-40, PEG-200, Polyquaternium-10, PEG-7, and Polyquaternium-7 are from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Sodium laureth sulfate would not be permitted in a certified organic or natural product.

Nasty ingredients score: 11/15

This product contains five ingredients from the Terrible Ten list: PEG-40, PEG-200, Polyquaternium-10, PEG-7, and Polyquaternium-7. It also contains one ingredient that would not be permitted in a certified COSMOS organic or natural product.



Prominence of

claims score: 3/5

The organic claim is shown very prominently on the front of the product. It refers to one ingredient but this ingredient is only present in a very small amount.

Availability of products score: 5/5

As the world's largest chemist, Boots products are very widely available in the UK and the US.

Total score: 19/25

How much does it cost? Normally retails at 72p per 100ml but currently on sale for 37p/100ml.

What could you choose instead?

Urtekram Nordic Birch shampoo for dry hair is £1.66/100ml, certified by Ecocert to the COSMOS organic standards.

COOLA Makeup Setting Spray Green Tea & Aloe



What's the problem?

This product says ORGANIC SUNCARE in a bright purple band across the front of the box and in capital letters on the product itself, yet it contains three ingredients from the Terrible Ten: ethylhexyl methoxycinnamate (octinoxate), homosalate, ethylhexyl salicylate (octisalate). In wider use these chemicals can disrupt hormones, cause allergies, affect the neurological development of babies and harm the environment.

There is also a logo on the bottle which states 'made with CERTIFIED ORGANIC ingredients' which could lead consumers to believe that the whole product is organic.

What's in it?

Alcohol denat (SD alcohol 40-B), citrus aurantium dulcis (orange) fruit extract, isodecyl neopentanoate, ethylhexyl methoxycinnamate, homosalate, silica silylate, ethylhexyl salicylate, butyl methoxydibenzoylmethane, dicaprylyl carbonate, PVP, parfum/fragrance, aqua/water/eau, glycerine, alcohol, algae extract, curcumis sativus (cucumber) fruit extract, , aloe barbadensis leaf juice, sodium hyaluronate, hydroxycitronelal, methyl 2-octynoate, limonene, amyl cinnamal, citronellol.

Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product, Alcohol denat (SD alcohol 40-B) and alcohol would have to be organic.
- Ethylhexyl methoxycinnamate, homosalate, ethylhexyl salicylate are from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Four other ingredients: isodecyl neopentanoate, silica silylate, butyl methoxydibenzoylmethane and PVP would not be permitted in a certified organic or natural product.

Nasty ingredients score 10/15

Contains three ingredients from the Terrible Ten: ethylhexyl methoxycinnamate (octinoxate), homosalate, ethylhexyl salicylate (octisalate) and four ingredients which would not be permitted in a certified organic product.



Prominence of claims score 3/5

States 'ORGANIC SUNCARE' in a bright purple band across the front of the product and includes a logo which states 'Made with CERTIFIED ORGANIC ingredients.'

Availability of products score 1/5

Although this is a US brand, these products are sold through British websites and may be available in some larger high street stores.

Total score 14/25

How much does it cost? £72.00/100ml

What could you choose instead?

There isn't an organic alternative to makeup setting spray, but Skin & Tonic rose mist is £20/100ml, certified to Soil Association organic health and beauty standards and has been recommended for use over make up.

Aloe Pura Organic Aloe Vera After Sun Lotion



What's the problem?

The label states 'ORGANIC Aloe Vera' in large letters but the ingredients panel shows that this product contains a significant proportion of retinyl palmitate, one of the Terrible Ten ingredients. The label also includes a logo stating 'made with organic aloe vera' which could lead consumers to conclude that the whole product is organic.

The label includes a panel stating 'Natural Actives' but retinyl palmitate is an artificial version of the naturally occurring retinyl, also known as vitamin A1. If our bodies absorb too

much vitamin A (mainly from food) this can cause foetal deformation. In wider use, retinyl palmitate can be toxic to the environment and only breaks down slowly in nature.

What's in it?

Aloe Barbadensis (Aloe Vera) Gel, Dicaprylyl ether, Tocopheryl acetate, Retinyl palmitate, Citrus aurantium dulcis fruit extract, Panthenol, Hydrolyzed collagen, Prunus amygdalus dulcis oil, Persea gratissima extract, Sesamum indicum extract, Helianthus annuus extract, Oryza sativa extract, Hamamelis virginiana extract, Rosa centifolia extract, Vaccinium myrtillus extract, Melilotus officinalis extract, Malva sylvestris extract, Chamomilla recutita extract, Tilia vulgaris extract, Lavandula hybrida extract, Eugenia caryophyllus extract, Citrus aurantifolia oil, Cymbopogon schoenanthus oil, Litsea cubeba oil, Lecithin, Tocopherol, Ascorbyl palmitate, Citric acid, Acrylates/C10-30 alkyl acrylate crosspolymer, Disodium EDTA, Sodium hydroxide, Phenoxyethanol, Potassium sorbate, Benzoic acid.

Our assessment of the ingredients against the international COSMOS standard

- If this was a certified organic product, the Aloe Barbadensis (Aloe Vera) Gel, Prunus amygdalus dulcis oil, Sesamum indicum extract, Helianthus annuus extract and Chamomilla recutita extract would have to be organic.
- Retinyl palmitate is from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Five other ingredients: Acrylates/C10-30 alkyl acrylate crosspolymer, Disodium EDTA, phenoxyethanol, panthenol and hydrolysed collagen would not be permitted in a certified organic or natural product.

Nasty ingredients score 7/15

Contains one ingredient from the Terrible Ten: Retinyl palmitate. Also contains five ingredients which would not be permitted in a certified organic product.



Prominence of claims score 4/5

States ORGANIC in large letters on the front and also includes a logo stating 'made with organic aloe vera' which could mislead consumers by suggesting the whole product is organic. The label includes a panel stating 'Natural Actives' but this product includes artificial ingredients.

Availability of products score 3/5

You can buy this in chemists and health food stores on UK high streets

Total score 14/25

How much does it cost? £3.25/100ml

What could you choose instead?

Bentley Organic Sunsoothe After Sun Lotion is £1.94/100ml and certified to Soil Association organic health and beauty standards.

Rituals Heavenly Hammam Organic Argan Oil and Eucalyptus Revitalising Bath Oil



What's the problem?

The label states 'Organic Argan Oil & Eucalyptus' but this product contains two ingredients from the Terrible Ten: ci 26100 (red 17) and ethylhexyl salicylate. These ingredients could have negative impacts on the immune system, cause allergies and harm the environment.

The eucalyptus and argan oil are the 11th and 12th ingredients out of 28 in total, so there are 10 ingredients in the product in greater quantities, yet Rituals are using the fact that it contains organic argan

oil and eucalyptus oil to market the product by putting this claim on the front of the packaging. We think it could mislead consumers to list just these ingredients on the front of the product in this way.

What's in it?

Ethylhexyl stearate, sesamum indicum (sesame) seed oil, caprylic/capric triglyceride, parfum/fragrance, trilaureth-4 phosphate, laureth-4, olus oil, aqua/water, tocopherol, calendula officinalis (calendula) flower extract, eucalyptus globulus (eucalyptus) leaf oil, argania spinosa (argan) kernel oil, helianthus annuus (sunflower) seed oil, ethylhexyl methoxycinnamate, butyl methoxydibenzoylmethane, ethylhexyl salicylate, hexyl cinnamal, citronellol, linalool, butylphenyl methylpropional, benzyl salicylate, geraniol, limonene, alpha-isomethyl ionone, cinnamyl alcohol, ci 26100 (red 17), ci 47000 (yellow 11), ci 60725 (violet 2).

Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product, sesamum indicum (sesame) seed oil, argania spinosa (argan) kernel oil and helianthus annuus (sunflower) seed oil would have to be organic.
- Ethylhexyl salicylate and ci 26100 (red 17) are from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Six ingredients: ci 47000 (yellow 11), ci 60725 (violet 2), trilaureth-4-phosphate, laureth-4, butylphenyl methylpropional and butyl methoxydibenzoylmethane would not be permitted in a certified organic or natural product.

Nasty ingredients score 10/15

- Contains two ingredients from the Terrible Ten: ci 26100 (red 17) and ethylhexyl salicylate.
- Contains six ingredients which would not be permitted in a certified organic product.

Prominence of claims score 2/5

The claim is clearly visible in the middle of the packaging, but it only refers to two specific ingredients.

Availability of products score 2/5

You can buy this in department stores on UK high streets.

Total score 14/25

How much does it cost? £13.50/100ml

What could you choose instead?

Neal's Yard Remedies Rose & Pomegranate organic Bath Oil is £15/100ml and certified to Soil Association organic health and beauty standards.

COOLA Pina Colada Sunscreen Spray

What's the problem?

This product says ORGANIC SUNCARE in a silver band on the front, states 70%+ certified organic ingredients and includes a logo which says 'made with CERTIFIED ORGANIC ingredients', yet contains three ingredients from the Terrible Ten: ethylhexyl methoxycinnamate (octinoxate), ethylhexyl salicylate (octisalate) and octocrylene. In wider use, these ingredients can disrupt hormones, cause allergies, affect the neurological development of babies and harm the environment.



What's in it?

Alcohol denat, ethylhexyl methoxycinnamate, octocrylene, ethylhexyl salicylate, butyl methoxydibenzoylmethane, methyl hydrogenated rosinate, parfum, algin, arginine PCA, calcium sulfate, carica papaya seed oil, rosa rubignosa seed oil, sodium phosphate, sodium diatomeae, tetrasodium pyrophosphate, glycerine, aloe barbadensis leaf juice, algae extract, curcumis sativus fruit extract, fragaria vesca fruit extract, citric acid, potassium sorbate, sodium benzoate, CI 15985

Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product, the alcohol denat would have to be organic.
- Ethylhexyl methoxycinnamate, octocrylene, ethylhexyl salicylate are from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Two ingredients; Butyl methoxydibenzoyl-methane and tetrasodium pyrophosphate would not be permitted in a certified COSMOS organic or natural product.

Nasty ingredients score 8/10

Contains three ingredients from the Terrible Ten: ethylhexyl methoxycinnamate (octinoxate), ethylhexyl salicylate (octisalate) and octocrylene. It also contains two ingredients that would not be permitted in a certified organic and natural product.

Prominence of claims score 4/5

States ORGANIC SUNCARE in a silver band on the front and says 70%+ certified organic ingredients. Includes a logo which states 'Made with CERTIFIED ORGANIC ingredients.'

Availability of products score 1/5

Although this is a US brand, these products are sold through British websites and may be available in some larger high street stores.

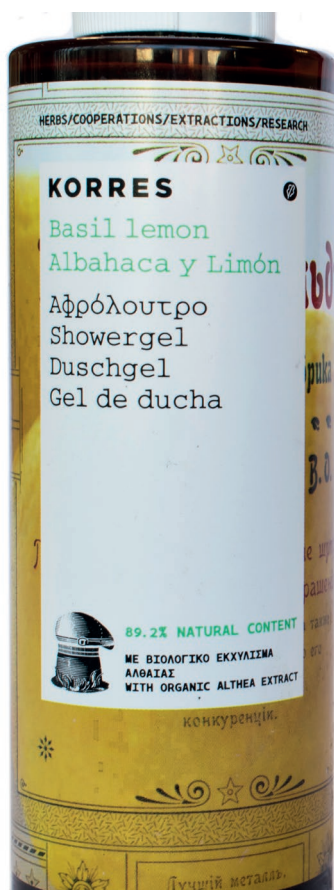
Total score 13/25

How much does it cost? £13.50/100ml

What could you choose instead?

Neal's Yard Remedies organic sun cream is £13.34/100ml and is certified by the Soil Association.

Korres Basil Lemon Shower Gel with Organic althea extract



What's the problem?

The label states 'with organic althea extract' and '89.2% natural content' but this product contains two of the Terrible Ten nasty ingredients: imidazolidinyl urea and polyquaternium-7. Polyquaternium-7 could be toxic to the environment. The ingredients panel does not show that the althea root extract is organic.

This product also contains four ingredients which would not be permitted in a certified organic or natural product under the COSMOS standards.

What's in it?

Water/eau, sodium laureth sulfate, cocamidopropyl betaine, sodium cocoyl isethionate, coco-glucoside, glyceryl oleate, parfum/fragrance, aloe barbadensis leaf juice, althea officinalis root extract, arginine, benzyl alcohol, butylphenyl methylpropional, castoryl maleate, geraniol, guar hydroxypropyltrimonium chloride, hydrolyzed wheat gluten, imidazolidinyl urea, lactic acid, limonene, linalool, phenoxyethanol, polyquaternium-7, potassium sorbate, sodium dehydroacetate, sodium gluconate, tocopherol.

Our assessment of the ingredients against the international COSMOS standard

- Imidazolidinyl urea and polyquaternium-7 are from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Four ingredients: Sodium laureth sulphate, sodium cocoyl isethionate, butylphenyl methylpropional and phenoxyethanol would not be allowed in certified organic and natural products.

Nasty ingredients score 8/15

Contains two of the Terrible Ten ingredients: imidazolidinyl urea and polyquaternium-7. It also contains four ingredients that would not be permitted in certified organic and natural products.

Prominence of claims score 1/5

Claims are in small print and relate to one ingredient plus a natural content percentage.

Availability of products score 2/5

You can buy these in larger UK high street stores and they are available internationally.

Total score: 11/25

How much does it cost? £3.20/100ml

What could you choose instead?

Avalon organic lemon bath and shower gel is currently on sale for £1.71/100ml, certified by NSF-ANSI to the American standard for personal care products which contain organic ingredients.

Aloe Pura Organic Aloe Vera Gel

What's the problem?

The label states 'ORGANIC Aloe Vera' in large letters but this product contains three ingredients which would not be permitted in a certified organic product: Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Panthenol (Pro-vitamin B5), Disodium EDTA (none of these ingredients are listed in the Terrible Ten).

What's in it?

Aloe barbadensis (Aloe Vera) Leaf Juice (Organic), Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Panthenol (Pro-vitamin B5), Disodium EDTA, Sodium Hydroxide, Phenoxyethanol, Potassium Sorbate, Benzoic Acid.



Our assessment of the ingredients against the international COSMOS standard

- If this was a certified organic product, the Aloe barbadensis (Aloe Vera) Leaf Juice would have to be organic.
- Four ingredients; Acrylates/C10-30 Alkyl Acrylate Crosspolymer, Panthenol (Pro-vitamin B5), Disodium EDTA and phenoxyethanol would not be permitted in a certified organic or natural product.

Nasty ingredients score 4/15

Does not contain any ingredients from the Terrible Ten but does contain four ingredients which would not be permitted in a certified organic product: acrylates/C10-30 Alkyl Acrylate Crosspolymer, Panthenol (Pro-vitamin B5), Disodium EDTA and phenoxyethanol.



Prominence of claims score 4/5

States ORGANIC in large letters on the front and also includes a logo stating 'made with organic aloe vera' which could mislead consumers by suggesting the whole product is organic. The label includes a panel stating 'Natural Actives' but this product contains artificial ingredients.

Availability of products score 3/5

You can buy this in chemists and health food stores on UK high streets

Total score 11/25

How much does it cost? £2.34/100ml

What could you choose instead?

Urtekram aloe vera body lotion is £1.70/100ml and certified to COSMOS organic by Ecocert.

Korres Fig Shower Gel with Organic Extracts of Althea & Helichrysum



What's the problem?

The label states 'with organic althea extract' and '90.4% natural content' but this product contains two of the Terrible Ten nasty ingredients: imidazolidinyl urea and polyquaternium-7. The ingredients panel does not show that the althea root extract is organic.

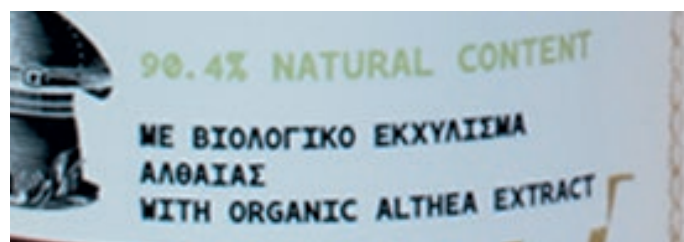
This product also contains three ingredients which would not be permitted in a certified organic or natural product under the COSMOS standards.

Our assessment of the ingredients against the international COSMOS standard

- Imidazolidinyl urea and polyquaternium-7 are from the Terrible Ten and would not be permitted in a certified organic or natural product.
- Three ingredients: Sodium laureth sulphate, Sodium cocoyl isethionate and phenoxyethanol are not permitted in certified organic and natural products

Nasty ingredients score 7/15

Contains two of the Terrible Ten ingredients: imidazolidinyl urea and polyquaternium-7. It also contains three ingredients that are not permitted in certified organic and natural products.



Prominence of claims score 1/5

Claims are in small print and relate to one ingredient plus a natural percentage

Availability of products score 2/5

You can buy these in larger UK high street stores and they are available internationally.

Total score: 10/25

How much does it cost? £3.20/100ml

What could you choose instead?

Avalon organic rosemary bath and shower gel is currently on sale for £2.00/100ml, certified to the American standard for personal care products which contain organic ingredients by NSF-ANSI.

What's in it?

Aqua/water/eau, sodium laureth sulfate, cocamidopropyl betaine, sodium cocoyl isethionate, cocoglucoside, glyceryl oleate, parfum/fragrance, aloe barbadensis leaf juice, althea officinalis root extract, arginine, benzyl alcohol, castoryl maleate, guar hydroxypropyltrimonium chloride, hydrolyzed wheat gluten, imidazolidinyl urea, lactic acid, linalool, phenoxyethanol, polyquaternium-7, potassium sorbate, sodium dehydroacetate, sodium gluconate, tocopherol.

Dr Organic Organic Moroccan Argan Oil Shampoo



What's the problem?

Organic appears prominently twice on the front of the packaging for this product, but it is not certified organic and we think this could mislead consumers.

It contains two ingredients which are not permitted in products which are certified to independent organic standards such as COSMOS.

What's in it?

Aloe barbadensis leaf juice, Aqua, Cocamidopropyl betaine, Sodium cocoamphoacetate, Sodium lauroyl sarcosinate, Coco glucoside,

Glyceryl oleate, Palmitamidopropyltrimonium chloride, Glycerin, Caprylyl/Capryl glucoside, Argania spinosa (Argan) oil, Citrus aurantium dulcis, Eugenia caryophyllus (Clove) leaf oil, Pelargonium graveolens (Geranium) oil, Citrus limon peel oil, Pogostemon cablin (Patchouli) oil, Cinnamomum zeylanicum (Cinnamon) leaf oil, Aniba rosaeodora (Rosewood) oil, Mentha arvensis herb oil, Citrus nobilis (Mandarin) peel oil, Vanilla planifolia (Vanilla) fruit extract, Mentha spicata herb oil, Kigelia Africana fruit extract, Hibiscus sabdariffa flower extract, Adansonia digitata fruit extract, Sorbitan sesquicaprylate, Sodium hydroxymethylglycinate, Sodium benzoate, Potassium sorbate, Benzyl alcohol, Dehydroacetic acid, Citric acid, Limonene, Eugenol, Linalool.

Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product, Argania spinosa (Argan) oil and Citrus Limon peel oil would have to be organic.
- Two ingredients; Sodium hydroxymethylglycinate and palmitamidopropyltrimonium chloride would not be permitted in a certified organic or natural product.

Nasty ingredients score 2/15

Does not contain ingredients from the Terrible Ten but does contain two ingredients that are not permitted in products which are certified to independent organic standards.



Prominence of claims score 5/5

The brand name could mislead consumers because it suggests that the product is organic. The product label also says that it is organic.

Availability of products score 3/5

These products are widely available in health food stores on UK high streets.

Total score 10/25

How much does it cost? £2.37/100ml

What could you choose instead?

Avalon Organic lavender shampoo is £1.85/100ml and certified to the American National Standard for Organic Personal Care Products by NSF-ANSI.

Dr Organic Organic Dead Sea Mineral Night Cream

What's the problem?

Organic appears prominently twice on the front of the packaging for this product, but it is not certified organic and we think this could mislead consumers.

- This product contains two ingredients which would not be permitted in a certified organic or natural product.
- Maris sal (Dead Sea salt) is the 11th ingredient out of 61 in total, which suggests it is present in the product in a fairly large quantity. As sea salt is not an agricultural product it cannot be organic and we think it is therefore potentially misleading because the packaging suggests that this entire product is organic.

What's in it?

Aloe barbadensis leaf juice, Aqua, Cetearyl alcohol, Glycerin, Glyceryl stearate citrate, Isoamyl laurate, Theobroma cacao (Cocoa) butter, Butyrospermum parkii (Shea) butter, Simmondsia chinensis (Jojoba) seed oil, Brassica campestris (Rapeseed) sterols, Maris sal (Dead Sea salt), Sodium hyaluronate, Vitis vinifera (Grape) seed oil, Pomegranate seed oil, Linum usitatissimum (Linseed) seed oil, Prunus armeniaca (Apricot) kernel oil, Persea gratissima (Avocado) oil, Prunus amygdalus dulcis (Sweet almond) oil, Hydrogenated vegetable oil, Glyceryl caprylate, Plantago lanceolata (Plantain) leaf extract, Artemisia umbelliformis extract, Buddleja davidii (Butterfly bush) extract, Tocopherol, Helianthus annuus (Sunflower) seed oil, Chondrus crispus extract, Xanthan gum, Chamomilla recutita extract, Tilia cordata (Linden flower) extract, Achillea millefolium (Yarrow) extract, Melilotus officinalis (Sweet clover) extract, Altea officinalis (Marshmallow) extract, Malva sylvestris leaf (Mallow) extract, Glucose, Sorbitol, Sodium glutamate, Urea, Sodium PCA, Glycine, Lactic acid, Hydrolyzed wheat protein, Panthenol, Ascophyllum nodosum extract, Fucus vesiculosus (Bladderwrack) extract, Laminaria digitata extract, Citric acid, Ascorbic acid, Citrus aurantium amara (Bitter orange) leaf oil, Citrus aurantium dulcis (Orange), Citrus nobilis (Mandarin) peel oil, Pinus sylvestris (Pine) needle oil, Thymus vulgaris (Thyme) flower/leaf oil, Mentha arvensis (Wild mint) herb oil, Mentha spicata (Spearmint) herb oil, Sodium phytate, Sodium benzoate, Potassium sorbate, Citral, d-Limonene, Geraniol, Linalool.



Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product Theobroma cacao (Cocoa) butter, Butyrospermum parkii (Shea) butter, Simmondsia chinensis (Jojoba) seed oil, Prunus armeniaca (Apricot) kernel oil, Prunus amygdalus dulcis (Sweet almond) oil, Helianthus annuus (Sunflower) seed oil and Chamomilla recutita extract would have to be organic.
- Two ingredients, urea and panthenol, would not be permitted in a certified organic or natural product.

Nasty ingredients score 2/15

Contains two ingredients that are not permitted in products which are certified to independent organic standards such as COSMOS.

Prominence of claims score 5/5

The brand name could mislead consumers because it suggests that the product is organic. The product label also says that it is organic.

Availability of products score 3/5

These products are widely available in health food stores on UK high streets.

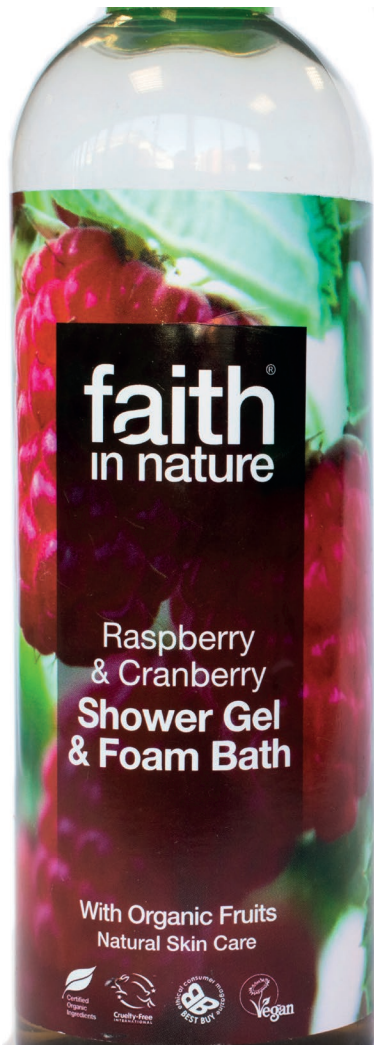
Total score 10/25

How much does it cost? £18.58/100ml

What could you choose instead?

Lavera re-energising sleeping cream is £17.78/100ml and is certified organic by Natrue.

Faith in Nature Raspberry & Cranberry Shower Gel & Foam Bath



What's the problem?

The label states 'With Organic Fruits Natural Skin Care' but this product includes one ingredient from the Terrible Ten plus one other ingredient which would not be permitted in a certified natural or organic product.

- The Terrible Ten ingredient Polysorbate 20 is artificial and in wider use has been shown to cause serious eye irritation and allergic skin reactions.
- Although the ingredients panel shows that it contains organic raspberry and cranberry fruit extract, it also contains non-organic blueberry extract.
- The front of the packaging includes a

logo which states 'Certified Organic Ingredients' without any qualifications, but according to the ingredients panel, only three of the 17 total ingredients are organic.

What's in it?

Ammonium laureth sulfate*, Maris sal, Cocamidopropyl betaine*, Polysorbate 20*, Glycerin*, Rubus idaeus fruit extract**, Vaccinium macrocarpon fruit extract**, Vaccinium angustifolium fruit extract*, Tocopherol*, Helianthus annuus seed oil*, Alcohol denat**, Parfum*, Citric acid*, Sodium benzoate, Potassium sorbate, Anthocyanins*, Beta vulgaris*

*Vegetable derived

**Organic certified

Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product, Helianthus annuus seed oil would have to be organic.
- Polysorbate 20 is from the Terrible Ten and would not be permitted in a certified organic or natural product.
- One ingredient; Ammonium laureth sulfate would not be permitted in a certified organic or natural product.

Nasty ingredients score 3/15

Contains one ingredient from the Terrible Ten: Polysorbate 20, and one ingredient that would not be permitted in a certified organic and natural product.



Prominence of claims score 3/5

- We think the brand name and the term 'Natural Skincare' suggest the entire product (or even the entire product range) is natural, but it contains an artificial ingredient.
- We believe the use of the logo which shows 'Certified Organic Ingredients' could be misleading because people may think this means all of the ingredients are organic.
- We believe the claim 'With Organic Fruits' is slightly misleading because not all of the fruit ingredients in this product are organic.

Availability of products score 4/5

You can buy these products in many stores on most UK high streets as well as health food shops.

Total score 10/25

How much does it cost? £1.11/100ml

What could you choose instead?

Bentley Organic Skin Blossom bath soak is £1.76/100ml and is certified to Soil Association organic health and beauty standards.

Faith in Nature Pomegranate & Rooibos Hand Wash



What's the problem?

The label states 'With Organic Pomegranate' and 'Natural Skin Care' but this product contains Polysorbate 20, which is artificial and has been shown in wider use to cause serious eye irritation and allergic skin reactions.

- It also contains another ingredient which would not be permitted in a certified natural or organic product.
- The front of the packaging also includes a logo which states 'Certified Organic Ingredients' without qualification, but according to the ingredients panel, only three of the 17 ingredi-

ents are organic: pomegranate extract, rooibos extract and alcohol.

- The brand name and the strapline 'natural skincare' also suggest that the ingredients are natural but polysorbate 20 is an artificial ingredient.

What's in it?

Aqua, Ammonium laureth sulfate*, Maris sal, Polysorbate 20*, Cocamidopropyl betaine*, Punica granatum fruit extract**, Aspalathus linearis leaf extract***, Glycerin*, Alcohol denat**, Melaleuca alternifolia leaf oil*, Anthocyanins*, Sodium benzoate, Potassium sorbate, Citric acid*, Aroma*, Linalool^o, Limonene^o

* Vegetable derived

** Organic certified & ethically traded ^o from essential oils (fragrance) allergens.

Our assessment of the ingredients against the international COSMOS standard

- Polysorbate 20 is from the Terrible Ten and would not be permitted in a certified organic or natural product.
- One ingredient: Ammonium laureth sulfate would not be permitted in a certified organic or natural product.

Nasty ingredients score 3/15

Contains one ingredient from the Terrible Ten: Polysorbate 20 and one ingredient that would not be permitted in a certified organic and natural product.



Prominence of claims score 2/5

- We think the brand name and the term 'Natural Skincare' suggest the entire product (or even the entire product range) is natural, but it contains an artificial ingredient.
- We believe the use of the logo which shows 'Certified Organic Ingredients' could be misleading because people may think this means all of the ingredients are organic.

Availability of products score 4/5

You can buy these products in many stores on most UK high streets as well as health food shops.

Total score 9/25

How much does it cost? £1.15/100ml

What could you choose instead?

Bentley Organic Cleansing Hand wash is £1.40/100ml and is certified to Soil Association organic health and beauty standards.

The Organic Pharmacy Sweet Vanilla Dry Oil



Perforatum Extract, Rosa Canina Fruit Oil, Vanilla, Hydroxyisohexyl 3-Cyclohexene Carboxaldehyde

What's the problem?

'The Organic Pharmacy' brand name could mislead consumers because it suggests that the product is organic, but this product contains two ingredients which are not permitted in products which are certified to independent organic standards such as COSMOS.

What's in it?

Diheptyl Succinate, Capryloyl Glycerin/Sebacic Acid Copolymer, Alcohol, Simmondsia Chinensis (Jojoba) seed oil, Argania Spinosa Kernel Oil, Parfum (Fragrance), Helianthus Annuus (Sunflower) Seed Oil, Olea Europaea (Olive) Fruit Oil, Calendula Officinalis Flower Extract, Hypericum

Our assessment of the ingredients against the international COSMOS standard

- In a certified organic product, Alcohol, Simmondsia Chinensis (Jojoba) seed oil, Argania Spinosa Kernel Oil, Helianthus Annuus (Sunflower) Seed Oil and Olea Europaea (Olive) Fruit Oil would have to be organic.
- Two ingredients; Hydroxyisohexyl 3-Cyclohexene Carboxaldehyde and diheptyl succinate would not be permitted in a certified organic or natural product.

Nasty ingredients score 2/15

Does not contain ingredients from the Terrible Ten but does contain two ingredients which would not be permitted in a certified organic product.

Prominence of claims score 5/5

The brand name 'The Organic Pharmacy' suggest that this product is organic. This is reinforced by a promise on the side of the box which states 'the first pharmacy dedicated to all things organic.' On the back of the box it states that this product is made with 99% Natural ingredients. The ingredients panel does not differentiate between natural and organic ingredients.

Availability of products score 2/5

You can buy these products online and from 13 stores in the UK, most of which are in London. Available in stores in over 30 countries worldwide.

Total score 9/25

How much does it cost? £35/100ml

What could you choose instead?

Herbpharmacy enriching body oil is £27.78/100ml and certified to Soil Association organic health and beauty standards.



3. Consumer research

We wanted to find out whether consumers shared our concerns about the use of the word organic on product labels. We asked independent market research and brand building company, The Crow Flies to carry out some research for us, which took place between 31st March and 4th April 2017.

The researchers spoke to 1000 women across the UK between the ages of 18-65, which made up a nationally representative sample of socio-demographic grades, employment status and regional representation. All participants were regular buyers and users of a wide range of everyday health and beauty products from body or face washes to after sun creams or sprays. The research was conducted online.

We showed consumers the labels of five of the products from our Come Clean About Beauty league table, which have 'organic' featured in various levels of prominence, all with a slight change to the brand name. Significant proportions of people picked up on organic as a notable feature unprompted.

People also told us that they think 'organic' conveys multiple positive benefits, particularly that it is better for their health and the environment. When the possibility that the products are not certified organic and could not meet organic standards was raised, the response was unequivocal: 76% of consumers strongly agreed or agreed that they would feel misled (only 8% disagreed).

Genuine organic accreditation was seen as extremely positive with 77% strongly agreeing or agreeing that they would be reassured by it. 69% of people said they would feel they were doing the right thing or making a positive choice by choosing a certified organic product. Most people (70%) said that organic certification would make them think positively about the brand and 68% of consumers said it would make them think positively about the retailer.

Other key findings from our research

74% of people said that by choosing a product which says organic on the label, they'd feel like they were using a product free from nasties.

- Yet nine of the products in our league table contain ingredients from the Terrible Ten, which have been shown to be harmful to human health and the environment in wider use, and the rest contain other ingredients that would not be allowed in certified organic products.

64% of people said they'd feel like they were getting less value for money when they found out the products weren't certified organic, despite saying organic on the label.

- But our research has shown that you could actually buy a certified organic product for less than the cost of a misleadingly labelled product in most cases.

Trust

- 72% of people said they'd lose trust in the brand when they found out the product could not meet organic standards.
- Most people (69%) thought it should be against the law to make organic claims on products which are not certified.

Positive association with organic

- 77% of people said they'd feel reassured if the product was certified organic.
- 75% of people said they'd think more positively about the brand if the product was certified organic.

Retailers

- 64% of people said they'd lose trust in the retailer when they found out that beauty products which say organic on the label are not certified and could not meet organic standards.
- 68% of people said they'd think more positively about the retailer if the product was certified organic.

4. Summary of the possible impacts of the Terrible Ten

We are not suggesting that the inclusion of any of these ingredients in the products listed means that they are not safe for use in the products where we found them. However, we do think it could be misleading to include these ingredients in products which claim to be organic, when they would not be permitted in an organically certified product, and we do not think consumers would expect to find ingredients like these in products that they believe are either organic or natural. The side effects listed below have been identified in wider research of the possible impact of these chemicals on human health and the environment. (See Terrible Ten data sheets in Section 5 below for more details and full references.)

1 - Ethyl hexylsalicylate (Octisalate)

What is it used for?

Used as a chemical UV filter in sunscreen, a fragrance ingredient and to help the skin better absorb cosmetics.

Features:

Made from sacyclic acid and ethanol.

Side effects:

- May have negative impacts on the immune system.
- Potential to cause allergies including acute contact dermatitis.
- Eco-toxicity – concerns that it damages the environment.

Summary of our findings:

Also found in hair dye, this ingredient is used in sunscreen to help easy absorption and promote longer lasting sun protection. However, in wider use it may have a negative impact on the immune system, and has the potential to cause acute contact dermatitis or other allergies. It may also be toxic to the environment. Regulations restrict the amount of octisalate that can be used in beauty products – but with safe alternatives to octisalate available, you don't have to take that risk.

Where we found it:

- Rituals Heavenly Hammam Organic Argan Oil and Eucalyptus bath oil
- COOLA ORGANIC SUNCARE Sport sunscreen spray Pina Colada SPF30 (listed as octisalate)
- COOLA ORGANIC SUNCARE Makeup setting spray (listed as octisalate)

2 – Homosalate

What is it used for?

Chemical sunscreen which offers protection from UVB but not UVA. It is aromatic and also acts as a skin conditioner.

Features:

Artificially produced chemical

Side effects:

- May cause allergies.
- Shown to be estrogenic which means it disrupts our hormones and may block male hormones.
- Has been found in human breast milk.
- Could be contaminated with salicylic acid which has been associated with harming the development of babies.

Summary of our findings:

Like many of the Terrible Ten ingredients, homosalate is used in sunscreens to offer protection from UVB rays, and as a skin conditioner. UVB blocking prevents sunburn which warns us when we've had too much sun, so the use of homosalate means we can risk overexposing our skin to the sun's harmful rays. This ingredient may also cause allergies. Worryingly, in wider use it is shown to have harmful effects on hormones – it may stop male hormones from working. In wider use it is also known to be at risk of being contaminated with a chemical associated with harming foetal development. It has also been found in human breast milk.

Where we found it:

- COOLA ORGANIC SUNCARE Makeup setting spray

3 - Imidazolidinyl urea

What is it used for?

Helps to retain moisture in the upper layers of the skin

Features:

Artificial antimicrobial preservative also used in insect repellent

Side effects:

- May release formaldehyde – a class one carcinogen, which also causes allergic reactions.

Summary of our findings:

Imidazolidinyl urea is used in beauty products to help retain moisture – you may find it in deodorant, hand cream and shampoo. It's a man-made chemical formed from three ingredients: formaldehyde, caustic soda and hydrochloric acid. Imidazolidinyl urea may release formaldehyde, which may cause cancer in humans and may also damage your DNA. You may also find imidazolidinyl urea in ointment for aching joints.

Where we found it:

- Korres Fig shower gel with organic extracts of althaea & helichrysum
- Korres Basil lemon shower gel with organic extracts of althaea & helichrysum

4 - Octinoxate

What is it used for?

Found in sunscreens, it blocks UVB rays.

Features:

Antimicrobial ingredient, also found in insect repellent.

Side effects:

- Hormone disrupter in animals. Potentially hormone disrupting in humans.
- Bioaccumulates within our bodies, which can't get rid of it naturally.
- Could affect the neurological development of babies.

Summary of our findings:

An ingredient also found in insect repellent, octinoxate is used in sun creams to block the sun's harmful UVB rays. But it has been found to act as an endocrine disruptor in animals, meaning that it could potentially change the natural function of our hormones. It could also affect neurological development in babies, and bio-accumulates in humans – meaning once we put it on, it sticks around as our bodies can't get rid of it.

Where we found it:

- COOLA ORGANIC SUNCARE Sport sunscreen spray Pina Colada SPF30 (listed as octisalate)
- COOLA ORGANIC SUNCARE Makeup setting spray (listed as octisalate)

5 - Octocrylene

What is it used for?

Chemical sunscreen filter blocks UVB and some UVA rays.

Features:

UV absorber suspected to be persistent.

Side Effects:

- Skin irritant which is suspected to be persistent.
- Strong allergen which can cause contact dermatitis in children.
- Photo contact allergies – meaning it causes allergies when it is exposed to sunlight.

Summary of our findings:

Octocrylene is a UV absorber, stopping the sun's harmful rays from getting through to your skin. However, it can cause strong allergies and dermatitis in children and adults. It is suspected to be persistent, and has been found in people and animals alike. Bizarrely, octocrylene has been shown to actually cause allergies when it is exposed to sunlight.

The future isn't so bright for octocrylene, which has been deemed so potentially harmful that it may be phased out in the coming years. For now, it's still found in a variety of sunscreen brands – including those making claims that may make consumers think they are organic.

Where we found it:

- COOLA ORGANIC SUNCARE Sport sunscreen spray Pina Colada SPF30 (listed as octisalate).

6 - PEGs: PEG-7; PEG-40; PEG-200; PEG-12

What is it used for?

Used to thicken products to improve texture, carry moisturisers or as solvents in the manufacturing of products.

Features:

Also used in pharmaceuticals as laxatives and in industrial manufacturing, PEGs are derived from petrochemicals.

Side effects:

- If there is no guarantee of purity the product may contain contaminants ethylene oxide and 1,4 dioxane, which both cause cancer.

Summary of our findings:

PEGs are man-made ingredients made from petrochemicals that thicken products and have moisturising properties, so they're often found in moisturisers, shampoo and surprisingly, laxatives. Unlike the other ingredients on our Terrible Ten list, PEGs are relatively safe – providing they are pure, but in wider use PEGs can contain contaminants like ethylene oxide, which has been classed as a definite human carcinogen.

Where we found it:

- Boots Beautiful Hair moisturise & nourish shampoo with added organic argan oil.

7 - Polyquaternium 7

What is it used for?

An anti-static agent, it is used in shampoo and conditioner to stop hair looking frizzy.

Features:

Artificial polymer

Side Effects:

- Could be contaminated with acrylamide, a possible cancer-causing chemical.
- Concerns have been raised that it is toxic to the environment.

Summary of our findings:

Polyquaternium 7 is an anti-static agent typically found in shampoos and conditioners. In wider use, if it is contaminated with acrylamide, this is a potentially cancer-causing chemical, and could be toxic to the environment.

Where we found it:

- Boots Beautiful Hair moisturise & nourish shampoo with added organic argan oil
- Korres Basil lemon shower gel with organic extracts of althaea & helichrysum
- Korres Fig shower gel with organic extracts of althaea & helichrysum

8 - Polysorbate 20

What is it used for?

This is a detergent used to clean things and an emulsifier which is used to mix oil and water. It's found in bubble bath, body wash, shampoo & hand wash.

Features:

a detergent found in cleaning products including this flea comb.

Side effects:

- Has been associated with serious eye irritation.
- Can cause allergic skin reactions.
- Can be contaminated with cancer-causing chemicals during the manufacturing process.

Summary of our findings:

Polysorbate 20 acts as a detergent and is used in body wash, shampoo and other products that cleanse and clean. It has been associated with serious eye irritation – polysorbate 20 is also an ingredient used in flea treatments. In wider use, this ingredient could be contaminated with cancer-causing chemicals, and there are concerns that it can cause allergic reactions on your skin.

Where we found it:

- Faith in Nature Raspberry & cranberry shower gel & bath foam
- Faith in Nature pomegranate & rooibos hand wash

9 - Red 17 artificial colour 26100

What is it used for?

This artificial dye is used to create a red colour in cosmetic products. We found it in bath oil but it has also been used in red beauty products such as blusher or lipstick.

Features:

An artificial chemical from the diazo dye family, red 17 is highly soluble in fats.

Side effects:

- Persistent in wildlife, the body cannot get rid of it naturally.
- Toxic to our organs – harmful to your liver and kidneys.
- Evidence to suggest it might cause cancer (gaps in data about its safety).

Summary of our findings:

Artificial colour 26100 (aka Red 17) is a dye that gives products a deep crimson shade not found in nature. It can be found in blusher, lipsticks and bath oils. There's a lot we don't know about this ingredient, which is also found in hair bleach and nail polish in the US, where we know product regulations are much weaker than those in Europe.

Evidence suggests it could be toxic to our organs in wider use and it may cause cancer in humans. We also know Red 17 is biopersistent, which means it accumulates in wildlife because it can't be broken down naturally. The European Commission even declared that Red 17 should be banned in cosmetics because of safety concerns. But no one really knows the full impacts of this potential toxin because there are data gaps that prevent scientists from performing an adequate risk assessment.

Where we found it:

- Rituals Heavenly Hammam Organic Argan Oil and Eucalyptus bath oil

10 - Retinyl palmitate

What is it used for?

An anti-oxidant, retinyl is otherwise known as vitamin A1. Retinyl occurs naturally in foods but retinyl palmitate is artificial. It is used in anti-aging products and sunscreens.

Features:

Although retinyl is produced naturally in our bodies, retinyl palmitate is the artificial version sometimes added to beauty products.

Side effects:

- The use of retinyl palmitate can lead to too much vitamin A in our bodies. The biggest risk related to this is to the unborn children of pregnant women, who could suffer foetal malformations.
- Persists in the environment as it cannot be broken down in nature.
- Can be toxic to the environment.

Summary of our findings:

Retinyl is a form of Vitamin A which is produced naturally in our skin, where it protects against ageing. However, retinyl palmitate is artificially produced and added to body lotions and after sun creams. Using these could lead to too much vitamin A in the body.

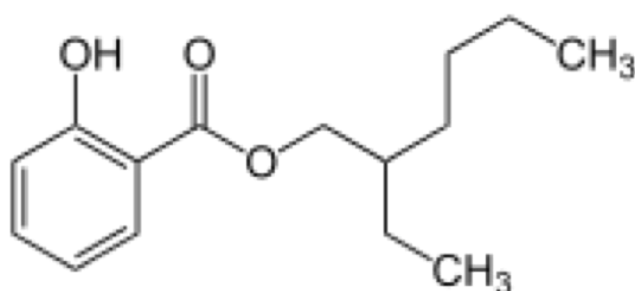
Too much Vitamin A can lead to developmental toxicity, or foetal malformations in babies in the womb. There is evidence to suggest that applying a product with retinyl palmate to your whole body could exceed the recommended daily dose of Vitamin A.

Where we found it:

- Aloe Pura Organic Aloe Vera After Sun Lotion

5. Terrible Ten datasheets

1. Ethylhexyl salicylate (Octisalate)



What is it?

This is a chemical ester formed by the condensation of salicylic acid with 2-ethylhexanol.

What is it used for?

The salicylate portion of the molecule acts as a filter to ultraviolet B radiation. The 2-ethylhexanol portion is a fatty alcohol and has oil-like emollient properties. Ethylhexyl salicylate is used in sunscreens as a UV filter. It enhances skin penetration of cosmetics.

Where does it come from?

A carbon-based compound synthesised chemically.

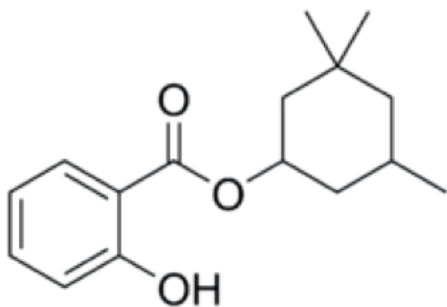
What are the health/environmental concerns?

The main concern from a human health perspective for Octisalate is the possible effects on the human immune system and allergenicity. Singh and Beck¹ describe acute contact dermatitis caused by octisalate and Shaw² presents a case study on a patient where patch testing demonstrated contact sensitivity to octisalate.

¹ Singh M, Beck MH. 2007. Octyl salicylate: a new contact sensitivity. *Contact Dermatitis* 56(1): 48.

² Shaw DW. 2006. Allergic contact dermatitis from octisalate and cis-3-hexenyl salicylate. *Dermatitis* 17(3): 152-155.

2. Homosalate



What is it?

It is an ester formed from salicylic acid and 3,3,5-trimethylcyclohexanol.

What is it used for?

A chemical barrier filter to ultraviolet radiation. Widely used sun screen agent. Also acts as a skin conditioner.

Where does it come from?

Synthetic carbon-based chemical

What are the health/environmental concerns?

This aromatic compound has a number of question marks over it. This includes suspected allergenicity, and low level endocrine disruption.

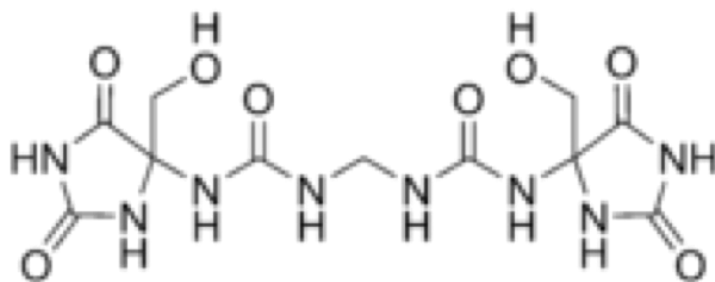
Homosalate is a chemical barrier and is in widespread use. While it offers some protection from UVB it is not an efficient barrier to UVA. The UVB blocking prevents sunburn which is the warning sign of over exposure so there is a risk that overexposure to UVA can occur. Homosalate has been found in human breast milk. As with octisalate, homosalate can be contaminated with salicylic acid, which has been associated with possible developmental toxicity.

The review of sunscreens and their adverse effects by Krauss et al (2012) quotes Schreurs et al (2005)³ and reveals that homosalate has been shown to possess endocrine disrupting properties in vitro. Other sunscreens reviewed in the Krauss et al paper also demonstrated in vivo effects in addition and were of high concern. Homosalate was designated of moderate concern. It has been shown to have estrogenic activity, possibly through acting as an anti-androgen.

However the lack of in vivo evidence of toxicity with homosalate should not remove the need for precaution given the fact that it has been found in human breast milk.

³ Schreurs RH, Sonneveld E, Jansen JH, Seinen W, van der Burg B (February 2005). "Interaction of polycyclic musks and UV filters with the estrogen receptor (ER), androgen receptor (AR), and progesterone receptor (PR) in reporter gene bioassays". *Toxicol. Sci.* 83: 264–72.

3. Imidazolidinyl urea



What is it?

A chemical antimicrobial which also helps to retain moisture in the upper layers of the skin. It is found in a wide variety of cosmetic products.

What is it used for?

An antimicrobial with a mode of action involving the release of formaldehyde, which is a Class 1 human carcinogen (IARC). Hence concerns over cancer. Formaldehyde is also related to allergenicity.

Where does it come from?

Imidazolidinyl urea is a synthetic chemical formed by the reaction of allantoin with formaldehyde in the presence of caustic soda, subsequently neutralised with hydrochloric acid. The resulting commercial mixture contains a number of formaldehyde addition products.

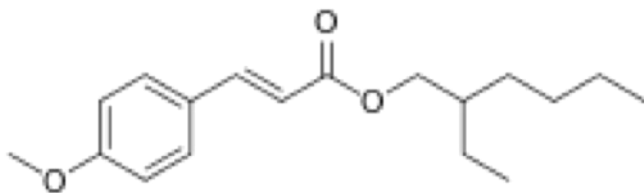
What are the health/environmental concerns?

Imidazolidinyl urea releases formaldehyde. Formaldehyde is formed in small amounts as a part of normal metabolism. Formaldehyde is a known human carcinogen. It is excreted in the urine, mainly as formate. The exact mechanism of toxicity is unknown but it is likely that formaldehyde toxicity occurs when levels inside the cells of the body saturate the main detoxifying enzyme, formaldehyde dehydrogenase, allowing the unmetabolized intact molecules of formaldehyde to exert their negative effects. Formaldehyde forms cross links between proteins and DNA.

Imidazolidinyl urea is also a nitrosating agent which may decompose or react to cause nitrosamine formation. Nitrosamines are produced from secondary amines and amides in the presence of nitrite ions and are believed to be carcinogenic.

Urea can also act as a skin sensitizing agent.

4. Octinoxate



What is it?

Octyl methoxycinnamate (octinoxate) is a carbon-based compound which blocks UVB light.

What is it used for?

It is used in lip balms and sunscreens for blocking UVB radiation and as an antimicrobial agent used in cosmetics.

Where does it come from?

Octinoxate is a synthetic Carbon-based ester formed from methoxycinnamic acid and (RS)-2-ethylhexanol.

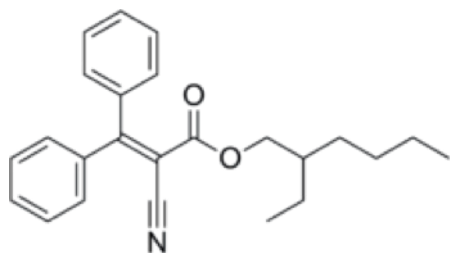
What are the health/environmental concerns?

The principal concern is that this synthetic sunscreen agent it has been shown to have endocrine mimicking effects in animals. The reproductive and neurological development of rat offspring were affected⁴. This may be a cause of concern, as humans are systematically exposed to octinoxate through using sunscreens and other cosmetics.

Octinoxate is also persistent which means our bodies cannot break it down – it has been found in humans. It bioaccumulates which means animals' bodies cannot remove it quickly enough, so it could also be damaging to wildlife. A recent paper by Axelstad et al states: 'perinatal OMC-exposure can affect both the reproductive and neurological development of rat offspring, which may be a cause of concern, as humans are systematically exposed to the compound through usage of sunscreens and other cosmetics'.

⁴ Axelstad, M; Boberg, J; Hougaard, KS; et al. (February 2011). "Effects of pre- and postnatal exposure to the UV-filter Octyl Methoxycinnamate (OMC) on the reproductive, auditory and neurological development of rat offspring". *Toxicology and Applied Pharmacology*. 250: 278–290

5. Octocrylene



What is it?

A carbon-based compound with an acrylate moiety which absorbs ultra violet light and a fatty alcohol portion which adds oil-like water resistant properties.

What is it used for?

A widely used chemical filter which predominantly blocks UVB and some UVA.

Where does it come from?

It is an ester formed from the condensation of diphenylcyanoacrylate with 2-ethylhexanol. It forms a viscous liquid.

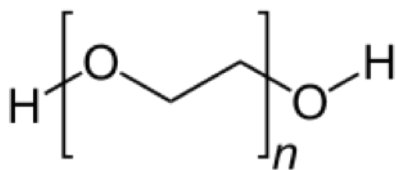
What are the health/environmental concerns?

A widely used UV absorber which has been found in humans and wildlife and is suspected to be persistent. It is a skin irritant in a proportion of people. The principal concern with octocrylene is that it has been shown to be a strong allergen with the potential to cause contact dermatitis in children. In addition adults with a history of photoallergy to the widely used medicine ketoprofen may be more susceptible to photoallergic dermatitis⁵. More recently a paper by de Groot and Roberts (2014) reviewed octocrylene and reported studies from France, Belgium, Spain and Italy which have reported increases in photo-contact allergies, particularly in those who had previously used topical ketoprofen-containing products.

It seems very likely that octocrylene will be phased out in the not too distant future and substituted with a less allergenic alternative. In the meantime the fact that sensitisation is a 'one way street' combined with increasing contact dermatitis rates and the widespread use of ketoprofen means that we should act with precaution and avoid this ingredient.

⁵ Avenel-Audran et al, 2010

6. PEGs: PEG-7; PEG-40; PEG-200; PEG-120



What are they?

Polyethylene glycols (PEGs) are polymers of ethylene oxide, of differing repeat sizes.

What are they used for?

Polyethylene glycols are used in cosmetics as solvents, thickeners and moisture carriers. They are also used in pharmaceutical preparations. They have many applications in industrial manufacturing.

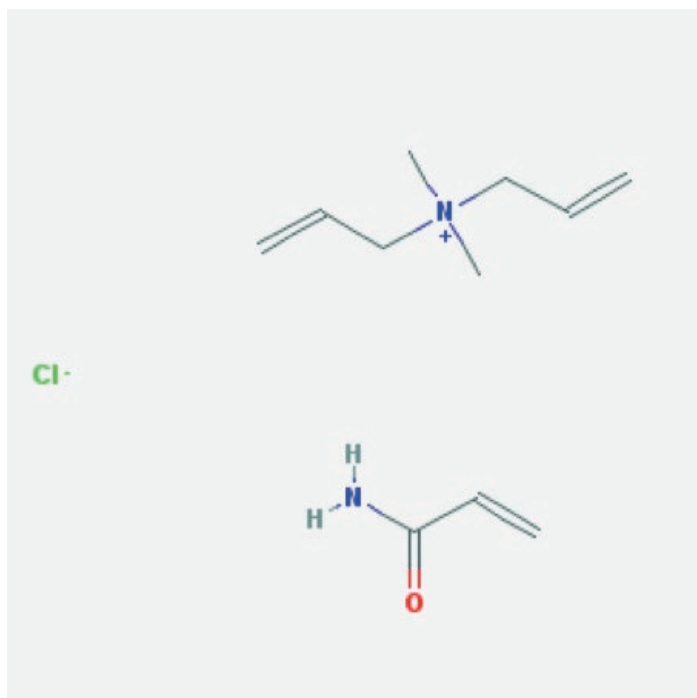
Where do they come from?

They are synthetic chemicals. The different PEGylated compounds are made by conjugation with different compounds. PEG-7 with glyceryl cocoate; PEG-40 with hydrogenated castor oil; PEG 120 with methyl glucose dioleate and PEG-200 with hydrogenated glycerine palmate

What are their health/environmental concerns?

They have a high margin of safety for their ability to cause direct toxicity (which means they are relatively safe). However, the main health concerns are about their potential to contain the contaminants ethylene oxide and 1,4 dioxane, both of which cause cancer. Ethylene oxide is classified as a definite human carcinogen (Class 1) and 1,4 dioxane as a possible human carcinogen (Class 2B). Purity is therefore an implicit aspect of their safety.

7. Polyquaternium 7



What is it?

Polyquaternium describes a family of polycationic polymers centred about a quaternary ammonium complex

What is it used for?

It is used in personal care products as an antistatic agent, film former and hair fixative.

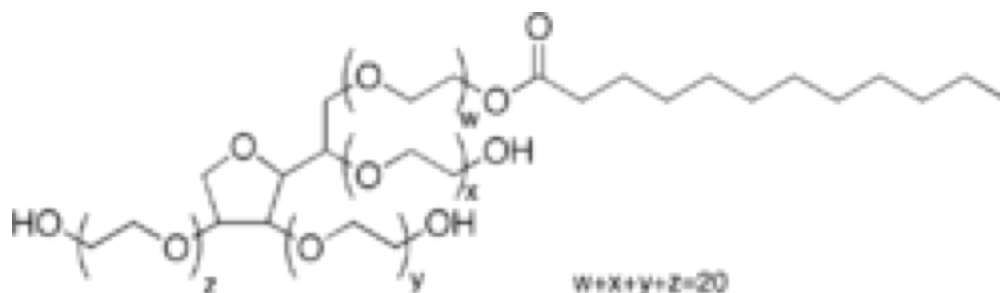
Where does it come from?

Polyquaternium 7 is a copolymer of acrylamide and diallyldimethylammonium chloride.

What are the health/environmental concerns?

A synthetic polymer used as a film former. The main worry is about contamination with acrylamide, which is a possible human carcinogen and developmental toxicant. There have also been concerns raised in Canada about ecotoxicology, which means toxic effects on life webs found in ecosystems.

8. Polysorbate 20



What is it?

Polysorbate 20 is a non-ionic surfactant which acts as a detergent

What is it used for?

It is used in various domestic cleaning agents, pharmaceutical and scientific application as a detergent and surfactant. In cosmetics it is employed as a surfactant and emulsifier in cleansing agents.

Where does it come from?

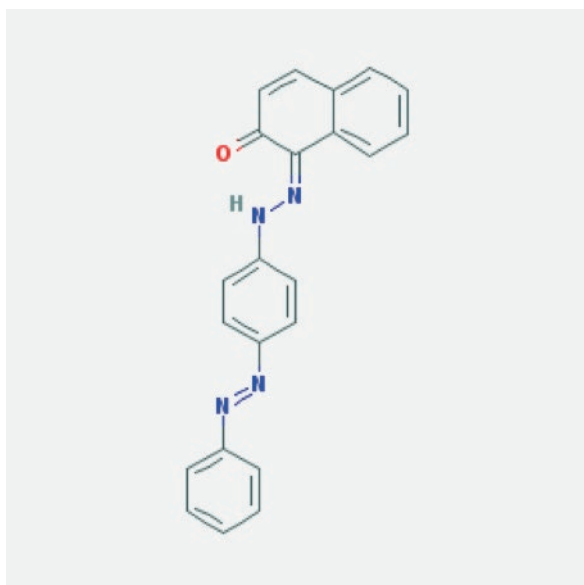
Synthetic chemical made by the ethoxylation of sorbitan with the subsequent addition of lauric acid.

What are the health/environmental concerns?

Under the GHS classification system concerns have been raised over allergic skin reactions from 8 notifications from 156 companies. It has also been associated with serious eye irritation.

A major concern is that during manufacture there can be contamination with the carcinogens ethylene oxide and 1,4-dioxane. Ethylene oxide is classified as a definite human carcinogen (Class 1) and 1,4 dioxane as a possible human carcinogen (Class 2B).

9. Red 17 – Artificial colour 26100



What is it?

Red 17 (or Sudan III) is an artificial diazo dye. It is what is termed a straight dye (i.e. it is not a 'lake' or a mixture).

What is it used for?

To impart a red colouration to a wide variety of cosmetic preparations.

Where does it come from?

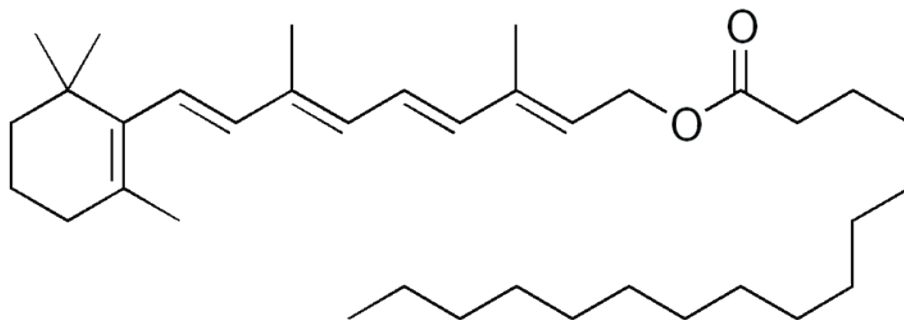
Sudan III is a synthetic diazo chemical dye which is highly soluble in lipids.

What are the health/environmental concerns?

Red 17 is a diazo aromatic dye. It carries concerns about bioaccumulation and persistence in wildlife. There are gaps in available data which raise questions about target organ toxicity, particularly liver and kidneys. There is also some evidence for human carcinogenesis. There are many data gaps.

Red 17 was referred to the EU with three other azo-dye colourants because of the risk that it could cause cancer. This was reviewed by the Scientific Committee on Cosmetics and non-food products (SCCNFP) which agreed that there were concerns that needed to be addressed. The Industry submitted additional information which resulted in a Scientific Committee on Consumer Products (SCCP) report where they opined that they couldn't perform a risk assessment because of missing data. They need further studies on dermal assimilation and production of the metabolite 4-aminoazobenzene – which is the particular carcinogen under discussion. There are other question marks, including biopersistence, organ system toxicity (liver and kidney) and ecotoxicity.

10. Retinyl palmitate (Vitamin A palmitate)



What is it?

Retinyl is otherwise known as vitamin A1 and is synthesised from beta-carotene. Retinyl oxidises rapidly under normal conditions and it is stabilised by combining it with palmitic acid to produce the ester retinyl palmitate.

What is it used for?

Retinyl palmitate is an antioxidant and is used to protect against skin aging. It is found in anti-aging creams and sunscreen products.

Where does it come from?

Retinyl is produced naturally in foods. Retinyl palmitate is synthesised chemically.

What are the health/environmental concerns?

There are a number of concerns about the use of retinyl palmitate. The principal concern is over the use of topical applications in pregnant women and the possibility of having too much vitamin A circulating. Vitamin A can be a developmental toxicant if it is not at the correct concentration. It interacts with the expression of the Hox gene which is involved in controlling body segmentation in the embryo. Too much vitamin A can lead to foetal malformations. Yourick et al⁶ produced some evidence that application of such products to the whole skin could exceed recommended upper daily doses of vitamin A. Hathcock et al⁷ evaluated vitamin A toxicity and found low dose reproductive effects.

Other concerns include reactive oxygen species production and questions over environmental persistence and toxicity.

⁶ Yourick JJ, Jung CT, Bronaugh RL. 2008. In vitro and in vivo percutaneous absorption of retinol from cosmetic formulations: significance of the skin reservoir and prediction of systemic absorption. *Toxicol Appl Pharmacol* 231(1): 117-21

⁷ Hathcock JN, Hattan DG, Jenkins MY, McDonald JT, Sundaresan PR, Wilkening VL. 1990. Evaluation of vitamin A toxicity. *Am J Clin Nutr* 52, 183: 202.

Produced by the Soil Association



The Soil Association was founded in 1946 by farmers, scientists, doctors and nutritionists to promote the connection between the health of the soil, food, animals, people and the environment. Today the Soil Association is the UK's leading membership charity campaigning for healthy, humane and sustainable food, farming and land use. Its Chief Executive is Helen Browning, and Chair of Trustees is Dennis Overton.

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