

Because men care about their personal care

Pilar Castán, Neus Subirats, Núria Marimon – Kao Chemicals Europe, Spain.

In 2020, with men spending a lot more time at home than usual due to the coronavirus pandemic (COVID-19), normal grooming routines have been relaxed, severely impacting sales this year. Spending will also be restricted by the economic impact of the pandemic. Sales will rebound in 2021, before settling back into annually stagnating rates from 2022. Global sales in 2020 have been 41,263.¹ EUR million (Retail Values RSP), -4.7% less than previous year but a moderate growth is expected for the three big categories: shaving, toiletries and fragrances.

In addition, facial hair fashion continues to put pressure on men's shaving, the biggest category.

Men's shaving remains under pressure in young men due to the facial hair trend. Multiple different styles of facial hair have emerged in this trend, including bushy or trimmed beards as well as "designer" stubble. With far fewer men now considering it important to be clean shaved daily, sales of men's shaving are likely to remain under pressure throughout the forecast period. For some, however, facial hair needs to be well groomed, trimmed, shaped and clean and tidy, creating room for a new breed of men's grooming products to emerge, such as beard oils and moustache wax.

According to Mintel's report there are three important topics in men's BPC:

- Ingredients: men are concerned about the impact that certain chemicals have on their health, which aligns with the "clean" and mild trend observed in the Beauty and Personal Care market.
- Convenience: men want their grooming routine to be as fast, simple and low cost as possible and therefore multi-functional products are particularly appealing.
- Guidance: men are looking to improve their hair and skin, and they want/need help to do so, but there are few retailers proactively improving hair care and skin care shopping experiences for men.

It is widely known that men and women have a different skin, although they share the same basic structure. The three main differences between them are firmness, thickness and sebaceous secretion. Male skin is around 25% thicker than female skin, which makes it more resistant and less affected by allergens or UV rays. Male skin also ages more slowly thanks to its firmness although ageing becomes abrupt at around 60. The secretion of more sebum

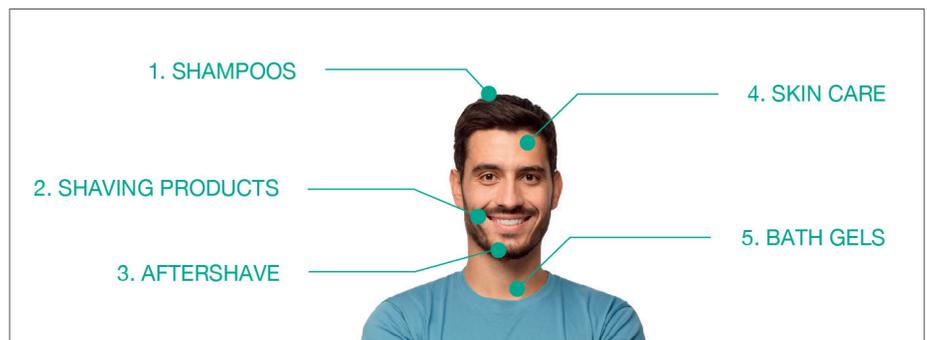


Figure 1: Men's grooming focus areas.

for hormonal reasons moisturises the skin but in excess, gives an undesirably unclean look and can worsen possible cases of dandruff. Furthermore, cheek and neck skin is often dry and dehydrated due to shaving action.

On the other hand, men's preferences in personal care include simple, results-oriented, multipurpose and time-saving products that can make them look nice easily and particularly younger men demand a more gender-neutral approach. This formulation guideline is focused on very mild products, easy to use and performing.

From Kao Chemicals Europe (KCE), we propose different solutions for men's grooming based on our specialty surfactants and Kao perfumes, that allow to easily formulate a wide range of personal care products.

Alkyl Ether Carboxylic Acids and their salts (Akypto) are anionic surfactants very mild to the skin and eyes, with good ecotoxicity and excellent compatibility with all kinds of surfactants – including cationic type and specific additives like cationic polymers used in shampoos. Among them, Sodium Laureth-5 Carboxylate (Akypto Foam RL 40) is the best option due to its properties and good cost/performance ratio and Potassium Laureth-4 Carboxylate (Akypto Foam LM 25) is the best solution for sulfate-free formulation, obtaining a luxurious foam, with a very small bubble size and high foam consistency.

Hydroxysultaines (Betadet S-20 and Betadet SHR) are highly effective amphoteric surfactants that improve the performance of final cosmetic products. They are extremely mild co-surfactants that increase the performance of personal care formulations compared to alkylbetaines and amidopropyl betaines. They provide a great formulation

stability, enhancing foam volume, and an improved thickening effect.

Non-ionic surfactants are very important, mainly in cleansing formulations because they help reduce the irritation of the main surfactants, have a thickening effect, modify the foam texture and, depending on the chemical structure, improve skin and hair condition. Glycereth-2 Cocoate (Levenol H&B) is a glyceryl ester derivative. It is very mild and has emollient, moisturising, thickening and foam boosting properties, which make it a very good all-in-one co-surfactant. It also has a good ecotoxicological profile. It is liquid and has no risk/safety warnings, which makes it easy to handle and cold processable. Lauryl Lactate (Exceparl LM-LC), 100% natural according to ISO 16128, is an excellent thickener for non-traditional cleansing formulations, without sulfates, and furthermore due to its emollient and conditioning properties it can be used also for skin care products. And finally, PEG-160 Sorbitan Triisostearate (Kaopan TW-IS-3995) is an excellent thickener for sulfate-free cleansing products.

For skin care products, KCE proposes two ingredients used widely in Japan: an emulsifier, Isostearyl Glyceryl Ether (Penetol GE-IS), for w/o emulsions specially designed to avoid a sticky feel and easy to spread, and an extremely moisturising lipid, Cholesteryl Isostearate (Exceparl IS-CE-A), with a skin biomimetic structure and non-greasy feel.

Cleansing products

Shampoos

The two main concerns for a man regarding his hair are alopecia and dandruff. The first one is generated by an excess of testosterone and is very difficult to treat. The use of a very mild and nourishing shampoo with hair fortifying

FORMULATION 1: CLEAR ANTI-DANDRUFF

Ingredients (INCI)	% w/w
EMAL 270D Sodium Laureth Sulfate	13.5
AKYPO FOAM RL 40 Sodium Laureth-5 Carboxylate	5.0
LEVENOL H&B Glycereth-2 Cocoate	2.0
AMIDET N PEG-4 Rapeseedamide	1.5
TRIKENOLTM PLUS Methylpropanediol, 4-Terpineol, Salicylic Acid, Salix Alba (Willow)Bark Extract	2.1
XIAMETER® OFX-0193 Silicone polyether copolymer	0.5
JAGUAR® C-162 Hydroxypropyl Guar Hydroxypropyltrimonium Chloride	1.0
EDTA.Na4	2.0
KAO Fragrance	0.3
Preservative, pH adjust, etc.	q.s.
Deionized Water	Up to 100

components prevents or slows down the bitter process. Dandruff is caused by multiple factors, an important one being the excess of sebum in the scalp. An anti-dandruff shampoo must remove that sebum and hydrate the irritated area at the same time.

■ **Clear Anti-dandruff-with Trikenol (ref. C-201) (Formulation 1)**

This anti-dandruff shampoo is based on Sodium Laureth Sulfate (SLES) and three special co-surfactants: Sodium Laureth-5 Carboxylate (Akyo Foam RL 40), Glycereth-2 Cocoate (Levenol H&B) and PEG-4 Rapeseedamide (Amidet N). The first one is an ether carboxylate of anionic nature, like SLES but with enhanced properties: foam creaminess, cleansing effect and mildness. Glycereth-2 Cocoate is a glycerine-derived 100% active surfactant that offers a highly moisturising effect without compromising foamability and viscosity. Finally, PEG-4 Rapeseedamide acts as a very mild thickener with solubilising and foam boosting properties. As an anti-dandruff agent, a synergistic blend of two ingredients of plant origin with salicylic derivatives has been selected.

All together, they create premium cost-effective anti-dandruff shampoos that will meet any man's expectations.

■ **Fortifying - With hair loss prevention (ref. C-210)**

Glycereth-2 Cocoate (Levenol H&B) provides the moisturising properties while Lauryl Hydroxysultaine (Betadet S-20) helps boost foaming and guarantees good cold stability. Sodium Laureth-5 Carboxylate (Akyo Foam LM 40) lowers the irritation level of the formula. Special fortifying ingredients like vitamins and minerals are added to this optimum surfactant system to create a high-quality shampoo with an outstanding performance.

Bath gels

When looking for a bath gel, the male consumer will be interested in three main aspects (apart from subjective inputs like fragrance and packaging): cost-effectiveness, as the number one aspect most times,

followed by moisturising properties that reduce skin dryness after showering, and mildness, especially for those with sensitive skin or even skin conditions.

■ **Body Wash - Mousse (ref. C-337) (Formulation 2)**

This sulfate-free shower gel is based on Potassium Laureth-4 Carboxylate (Akyo Foam LM 25), a premium anionic surfactant that offers a soft and creamy foam, very stable and with a special texture, combined with Lauryl Hydroxysultaine (Betadet S-20), an amphoteric surfactant very mild to the skin that improves the stability of the formula at low temperature and Glycereth-7 Caprylate/Caprinate (Emanon EV-E), key ingredient to achieve high foamability and smooth feeling. This formulation is a body mousse, that can be packaged in an aerosol spray or in a pump spray, to produce a fine dense foam.

Two-In-One: hair shampoo and body gel

Convenient products and sustainability are important. Men are interested in versatile, easy to use and fast-acting personal grooming products. The impact of COVID-19 has affected people and the clean beauty trend will change the market asking for more transparency and taking care not only of consumers but also of the environment.

■ **Hair & Body dilutable Cleansing (ref. C-321)**

Our sustainable proposal is an ultra-mild foaming concentrated Hair & Body Cleanser. This product is made in concentrate form to be mixed with water for consumption. A clear viscous hair & body shampoo is obtained placing 30 mL in an empty 100 mL bottle, adding tap water and shaking it. This new formula represents a step forward towards our commitment to create environmentally-friendly solutions that meet the needs of our customers.

**FORMULATION 2: HAIR & BODY DILUTABLE CLEANSING**

Ingredients (INCI)	% w/w
AKYPO FOAM LM 25 Potassium Laureth-4 Carboxylate	38.8
BETADET S-20 Lauryl Hydroxysultaine	31.9
KAOPAN TW-IS-399S PEG-160 Sorbitan Triisostearate	4.2
EMANON EV-E Glycereth-7 Caprylate/Caprinate	3.1
FINDET ARH/52 PEG-40 Hydrogenated Castor Oil	1.4
KAO SOFCARE GP-1 PPG-3 Caprylyl Ether	0.9
Propylene Glycol	14.6
Citric Acid (50% aq. Sol.)	0.7
KAO Fragrance	q.s.
Preservative	q.s.
Deionized Water	Up to 100

**FORMULATION 3: SHAVING CREAM ULTRA-MILD**

Ingredients (INCI)	% w/w
AKYPO FOAM LM 25 Potassium Laureth-4 Carboxylate	40.5
LEVENOL H&B Glycereth-2 Cocoate	5.0
DANOX BF-22 Pearling concentrate	4.0
Merquat™ 550 PR Polyquaternium-7	3.0
Glycerine	3.0
Coconut Oil	2.0
KAO Fragrance	q.s.
Preservative	q.s.
Deionized Water	Up to 100

Shaving

The shaving process has some drawbacks, like damage to the skin due to the use of blades and razors and drying effect due to aggressive ingredients.

■ **Shaving Cream Ultra-Mild – outstanding foam texture (ref. C-309) (Formulation 3)**

Glycerine-based shaving foams are designed to give a soft feeling during shaving and help the blades do their job. With Potassium Laureth-4 Carboxylate, an Ultra-Mild Shaving Cream can be formulated to provide a unique creamy foam that will take care of the beard and skin while using the mildest surfactants. The foam will remain stable to soften the skin and ease the shaving process. This product does not contain sulfates or soap. This formulation incorporates Glycereth-2 Cocoate (Levenol H&B), a surfactant with foam-boosting and moisturising properties even at low rates.

This formula creates a consistent foam which is easily spreadable over the face and leaves a silky feel on the skin.

After-shave products

Historically, aftershaves were no more than cologne with a reduced fragrance level. Nowadays they have evolved into more complex products but keeping the same goals and basic functions.

A simple transparent, cost-effective lotion can be prepared easily by using Aloe Vera that has a soothing and wound-healing effect, a re-fattening and conditioning agent, PEG-7 Glyceryl Cocoate (Emanon HE) to improve skin condition after shaving and PEG-40 Hydrogenated Castor Oil (Findet ARH/52) that helps solubilise the perfume added to the formula. Alcohol is generally added to give a more refreshing feeling.

Aside from the soothing effects, protective

formulations should also be considered given the rising importance of skin health among men.

■ Refreshing Emulsion (ref. C-198)

(Formulation 4)

The composition of this emulsion includes a relatively low amount of alcohol to give a refreshing touch and minimise the use of preservatives. The fatty phase is composed of basic oils that act as re-fattening agents and normalise the damaged barrier function of the skin.

Glycereth-2 Cocoate, as the main surfactant, gives a pleasant feeling to the skin and helps spread the oils without leaving the typical tacky feeling of other greasy products.

The next step in the evolution of aftershave products is the complete removal of the alcohol content, to prevent potential skin dryness and reduce the stinging associated with their use.

■ High water content w/o emulsion

(ref. C-323)

This w/o emulsion protects skin from dryness. Thanks to the use of the emulsifier Isostearyl Glyceryl Ether (Penetol GE-IS), a high-water content w/o emulsion can be prepared which is easy to spread and does not leave a greasy, sticky feeling. Due to the active ingredient Cholesteryl Isostearate (Exceparl IS-CE-A), a skin biomimetic lipid, skin water-retaining ability is improved.

Skin care

Market studies indicate that skin care is the most dynamic subsector in men's grooming. Along with the introduction of mass market products targeting the average man eager to improve his image without spending too much, products for specific parts of the body and



FORMULATION 6: SOLID BODY MOISTURIZER

Ingredients (INCI)	% w/w
DANOX HC-30 Behenamidopropyl Dimethylamine, Dipalmitoyl ethyl Hydroxyethylmonium Methosulfate, Cetyl Alcohol, Stearyl Alcohol and Lactic Acid	60.0
EXCEPARL LM-LC Lauryl Lactate	7.0
COCONAD RK Tricaprylin	5.0
LEVENOL H&B Glycereth-2 Cocoate	4.0
KAO SOFCARE GP-1 PPG-3 Caprylyl Ether	4.0
KALCOL 6850 Cetearyl Alcohol	2.0
EXCEPARL IS-CE-A Cholesteryl Isostearate	2.0
KAO Fragrance	q.s.
Shea Butter	10.0
Coconut Oil	5.0

FORMULATION 4: REFRESHING EMULSION

Ingredients (INCI)	% w/w
LEVENOL H&B Glycereth-2 Cocoate	5.0
KAOPAN SP-O-10 Sorbitan Oleate	1.5
COCONAD RK Tricaprylin	2.0
Jjoba Oil	2.0
Isopropyl Myristate	2.0
Mineral oil	1.0
XJAMETER™ PMX-200 Silicone Fluid 100 cSt Dimethicone	1.0
Ethanol	15.0
Glycerine	2.0
Tocopheryl Acetate	0.5
Carbomer	0.3
KAO Fragrance	q.s.
Preservative, pH adjust, etc	q.s.
Deionized Water	Up to 100

with special properties are on the rise thanks to their good acceptance.

■ Moisturizing Gentle Facial Wash (ref. C-303)

(Formulation 5)

Although men's habits are changing, most men do not want to spend much time in the bathroom. So, practical and multipurpose products are highly valued by them and this Facial Cleanser is one such product (reference C-303). By combining Potassium Laureth-4 Carboxylate and Lauryl Hydroxysultaine (Betadet S-20), an extraordinary mild cleanser is obtained, with easily thickening by using PEG-160 Sorbitan Triisostearate (Kaopan TW-IS-399S). Glycine Betaine provides a moisturising effect and Glycerine improves skin water content. The product is clear and stable thanks to the use of Lauryl Hydroxysultaine.

■ Body Cream – Light creamy feeling (ref. C-326) Following the easy-to-apply idea, the production of this Light Body Cream is very simple. The combination of two emulsifiers, an anionic, Sodium Laureth-11 Carboxylate (Akypo Soft 100 BVC) with a non-ionic, Sorbitan Oleate (Kaopan SP-O10) forms an emulsion which is easy to spread and absorb, providing a light feeling. Lauryl Lactate (Exceparl LM-LC), a liquid emollient derived from renewable sources, with high/medium spreadability and low oiliness improves the light feeling of the formulation.

New realities demand new solutions. Water is a precious natural resource, and we must make efforts to save it. Following the trend of taking care not only of people but also of the environment, our sustainable proposal is a Solid Body Moisturizer.

■ Solid Body Moisturizer (ref. C-334)

(Formulation 6)

This body moisturiser in bar form which includes a selection of emollients (Lauryl Lactate, Tricaprylin, PPG-3 Caprylyl Ether, Glycereth-2 Cocoate) and a biomimetic skin lipid (Cholesteryl Oleate) shows fast absorption and provides high moisturisation to the skin. It contains a high level of natural ingredients (91% according to ISO 16128) and packaging has been reduced due to the solid form

FORMULATION 5: MOISTURIZING GENTLE FACIAL WASH

Ingredients (INCI)	% w/w
BETADET S-20 Lauryl Hydroxysultaine	21.1
AKYPO FOAM LM 25 Potassium Laureth-4 Carboxylate	14.3
KAOPAN TW-IS-399S PEG-160 Sorbitan Triisostearate	0.5
Glycerine	5.0
GENENCARE® OSMS BA Glycine Betaine	1.0
KAO Fragrance	q.s.
Preservative, pH adjust, etc	q.s.
Deionized Water	Up to 100

Conclusion

New trends in personal care products and, of course, also in men's grooming represent a big challenge both for formulators but also for ingredient suppliers. Kao Chemicals Europe has a wide selection of surfactants, specialties and perfumes that could help develop more sustainable formulations taking care of people but also of the environment; we have only one planet and we must look after it. **PC**

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