

New Sensations in Oral Care

New ingredients, product formats and consumer trends are driving innovations in oral care.

The global oral care market will grow at a compound annual growth rate (CAGR) of 3.18% through 2018, according to an analysis from Research and Markets (www.researchandmarkets.com), driven by emerging technologies, upscale offerings and, most significantly, new adopters in emerging middle classes around the world. Estimates vary, but Statistica sources place the global oral care market size at \$34.8 billion in 2015, with a projected value of \$40.3 billion by 2021.

The largest oral care markets in 2014 were the United States, China, Germany, Brazil and the United Kingdom, according to Mintel (www.mintel.com). Mintel estimates that the U.S. oral care market is valued at \$7.2 billion. Future growth will be driven by new product innovations, portable offerings and children's oral care. On the other hand, China had a notably low per capita oral care spend in 2014, totaling just \$2.70, while the Brazilian market was driven by claims of cavity prevention and fresh breath. The fastest-growing markets over the last five years were based in Asia, notably Vietnam, India and Malaysia. In India in particular, brands are delivering added benefits in their products, including whiteners, gum care and acid neutralizers, according to a Mintel analysis.

Sensory Innovations

P&F recently spoke with Mike Munroe, vice president of the global Mint and Sensates^a group at Takasago International Corporation. His group focuses on natural and synthetic mint compounds, flavors and ingredients, as well as Sensates^a, sensory ingredients that impart chemesthetic effects in consumer product applications, including cooling, warming and tingling. (These materials are applied primarily in oral care and OTC pharma, but also find use in confectionery, personal care [skin care], sexual health and, to some extent, beverages.)

Chemesthetic ingredients have a range of advantages, says Munroe. For instance, a cooling agent can boost the alcohol impression in an alcohol-free mouth rinse. This is particularly important as a growing number of alcohol-free oral care products are being launched in Europe and elsewhere, including markets in which halal requirements are widespread. Alcohol-free is also an attractive claim for children's oral care. Brand examples include: Listerine Zero; Tom's of Maine Long Lasting Wicked Fresh Mouthwash, Peppermint-Wave; CloSYS

^aSensates is a trademark of Takasago



Arm & Hammer's multifunctional Truly Radiant Rejuvenating Toothpaste is among the latest launches in tooth enamel repairing oral care products; courtesy Arm & Hammer.

Original Unflavored Mouthwash, Alcohol Free; SmartMouth Alcohol-Free Mouthwash, Fresh Mint; Crest Pro-health Multi-protection Alcohol Free Rinse; and ACT Alcohol Free Anticavity Fluoride Rinse, Mint.

"It seems as if consumers can't get enough refreshment from their oral care products," says Deanna Hamant, section head, global flavors and fragrances development, health and grooming, at Procter & Gamble. "While more is usually better, there is a tipping point where other negative sensations such as burning come in. It is a real balancing act to reach that sweet spot of refreshment without pushing it too far."

Whitening & Breath Freshening Multifunctionality

Teeth whitening was once an upmarket oral care category, but it has since gone mass. Today, says Munroe, the whitening trend continues to be a leading oral care claim in the United States, as does breath-freshening.

"Whitening is a leading technology space in oral care," says Hamant. "There are various technologies to whiten teeth such as silicas, peroxide and phosphate salts." And, she says, "Whitening product performance continues to improve. As an example, new Crest 3D White Brilliance can remove 95% of surface stains in three days. As we continue to raise the bar on whitening performance, we can also use certain flavors and other ingredients as part of the total product experience to drive home the core whitening/cleaning benefit."



Flavor can play a significant part in the mood and energy facets of oral care, whether positioned for day (energizing) or night (calming) use.

Oral health facets such as whitening and fresh breath can represent considerable fears for consumers that equate oral wellness with happiness and fulfillment. Munroe notes that, in this way, oral care has moved up Maslow's hierarchy of needs from satisfying just physiological and safety aspects to those of love/belonging and self-esteem.

Recent product launches in the space include Crest Pro-Health HD Daily Two-Step Toothpaste System, which “strips plaque away, and ... polishes and whitens for an amazing experience that lets you feel the difference from first use.” By combining whitening and anti-gingivitis treatment into one ritual (no rinsing between stages), the brand maximizes benefits and immediacy of results. Similarly, Arm & Hammer's multifunctional Truly Radiant Rejuvenating Toothpaste promises, “This revolutionary toothpaste goes beyond the surface to strengthen, clean and repair tooth enamel for a radiant smile in just 5 days!”

Euromonitor notes that India, one of the fastest-growing oral care markets, is embracing whitening products, alongside acid neutralizers and gum care products. Examples of recent launches in that market include Colgate Visible White Shine toothpaste.

Hypersensitivity & Repair

As noted above, enamel repair is a key claim for the oral care category, alongside treating hypersensitivity and protecting against sugar acid. Sensodyne, the classic brand example in the hypersensitivity space, has evolved beyond pain removal or management to repair with its Sensodyne Repair and Protect Toothpaste. According to the brand, the product “forms a repairing layer over sensitive areas of teeth” and relieves tooth sensitivity. Another example is Unilever's Regenerate Enamel Science, which “consists of an advanced toothpaste for daily brushing and a monthly boosting serum which together can regenerate 82% of enamel after just three days of use.”

Hydration & Salivation

Mouth hydration/moisturization is a crucial claim for people suffering from dry mouth due to Sjögren's Syndrome, chemotherapy treatments or other circumstances. These consumers require mild therapeutic saliva-stimulating oral care, says Munroe. Hydrating brands include Biotene Dry Mouth Oral Rinse and ACT Total Care Dry Mouth Anticavity Mouthwash Soothing Mint. In some markets, salivating/hydrating claims have moved to cosmetic oral care products.

Several flavor and fragrance houses have pursued the research and development of compounds that stimulate salivation. For example, Takasago's Intensates^b flavors boost oral salivation, while Firmenich's NovaSense^c flavor systems deliver trigeminal sensations and increased salivation. These types of materials can be applied to oral care, OTC drugs, confectionery and other products.

Activation & Mood

The activation (e.g., energizing or relaxing) and mood trend in oral care is on the horizon, says Munroe. Already, some products are hitting the market with unique emotional and energy



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claims that have been previously seen in the personal care and beverage categories.

For instance, the innovative Splat brand, based in Russia, offers Love toothpaste which, aside from protecting against cavities and bad breath, contains “an ingredient from licorice [that] is a natural sweetener which has anti-inflammatory effect and protects against the simple herpes virus.” The brand's Dream toothpaste contains damiana and other “extracts of rare aphrodisiac plants,” and betaphroline, which is a “happiness agent” that “stimulates creation of endorphins and improves one's mood.” Meanwhile, another Russian oral care company, R.O.C.S., had introduced a taurine-laced toothpaste for adults that promises to deliver energy and cheeriness in the morning.

These products, like breath-freshening and whitening offerings, address a higher order of benefits along Maslow's hierarchy of needs, Munroe points out, well beyond basic functionality. As Splat says: “What if a toothpaste could not only professionally protect from gum and dental problems but also inspire to a brighter life?”

Flavor can play a big part in the mood and energy facets of oral care, whether positioned for day (energizing) or night (calming) use.

Charcoal & Other Unique Ingredients

The concept of purification has manifested in activated charcoal toothpaste, primarily in Asia. Munroe notes that the success of charcoal oral care lies in its simple concept and natural status. Activated charcoal, often from bamboo, can be used to remove malodor components in the mouth, while whitening teeth. Examples include Sumigaki Japanese Charcoal Toothpaste, Neway Charcoal Toothpaste Bamboo Tooth Whitening Toothpaste and Blackwood. Launched by Splat, Blackwood is flavored with juniper berry extract and contains birch charcoal for removal of stains and whitening activity.

This niche has manifested elsewhere with the introduction of astringents such as salt, diamonds (ex: Diamond White) and pearls (ex: Pearl Drops Hollywood Smile). Examples of salt-containing oral care include Weleda Salt Toothpaste, Lg Korea

^bIntensates is a trademark of Takasago

^cNovaSense is a trademark of Firmenich

Won Seng Back Bamboo Salt Toothpaste and Dabur Herbal Toothpaste Salt & Lemon. These unique whiteners are bound to remain niche, but offer insights into consumers' desire for unusual products.

Brands are also applying probiotics to oral care, as in the case of GUM Periobalance, mint lozenges that contain naturally occurring Prodentis probiotics to reduce plaque buildup, and Yunnan Baiyao probiotic toothpaste, featuring mint and lemon flavors. While these products are currently niche, they could potentially scale up to mass offerings.

Flavor Trends

"Flavors tend to stay in the traditional space of mints, plus some bouquet notes across most of the world," says Hamant. "More and more companies are playing in the refreshment space using menthol and other non-traditional coolants such as the Wilkinson Sword compounds."

It's difficult to make novel oral care flavors "stick" in the marketplace, says Munroe, but it can be done. While mint and wintermint dominate markets such as the U.S., citrus tonalities have established a foothold with consumers. Examples include: Hello Pink Grapefruit Mint Fluoride; Hello Mojito Mint Toothpaste; Crest Be Dynamic Lime Spearmint Zest Flavor Toothpaste; Redmond Earthpaste Toothpaste, Lemon Twist; Crest Whitening Plus Scope Toothpaste Citrus Splash; and Tom's of Maine Clean and Gentle SLS-Free Anticavity plus Dry Mouth Soother Toothpaste, Lemon-Lime.

Other novel flavor profiles include chocolate (Theodent Classic Whitening Crystal Mint, featuring cocoa beans, and Crest Be Adventurous Mint Chocolate toothpaste) and vanilla (Crest Be Inspired Vanilla Mint Spark, Banilla Bling Dairy and Gluten-free Toothpaste and JASON Vanilla Mint PowerSmile Whitening Toothpaste). Unique profiles can capture the attention of adults, as with Mr. Bacon's Bacon-Flavored Toothpaste, and encourage children to increase their time brushing, as with GUM Crayola Squeeze-A-Color Toothpaste, which is designed to look like the iconic brand's crayons. Globally, tea flavor profiles are quite popular, particularly in Asia. Examples of launches include Breath Palette Toothpaste with Darjeeling Tea flavor, Pepsodent Green Tea toothpaste and Colgate Toothpaste Maxfresh Green Tea.

Munroe says that, given the right circumstances, consumers are willing to experiment with oral care offerings. If consumers

are able to "live" with products over a period of weeks, they are more likely to embrace new sensory experiences, whether they be flavor profiles or high-intensity chemesthetic effects for long-lasting sensations, tingling, etc. For example, the launch of seasonal products can spur adoption of novel oral care products.

Oral Beauty

While mass offerings dominate, there is growing sophistication in premium oral care, particularly in the drug store channel. As Munroe puts it: if a consumer is willing to spend \$30 dollars for a skin or face cream, why not a product that keeps their smile clean and healthy? Munroe concedes this is a "niche area," but adds that there are precedents for trickle-down, as in the case of whitening products.

Beyond Natural & Sustainable Oral Care

While natural oral care continues to have appeal for consumers, Munroe says the concept is expanding to encompass broader concepts such as "free-from." He notes that common claims include SLS-free, free of artificial flavors, paraben-free, etc. This trend has led a resurgence of the Tom's of Maine brand in particular, as well as Honest Toothpaste, which focus on a sustainability story that resonates with consumers.

In response to this trend, a number of flavor and fragrance companies are producing sustainable ingredients, including Takasago's Mintact^d range of compounds made from sustainable pine. Munroe concludes, "Consumers want natural, but they're getting a better understanding [of it] and being more discerning. Customers want to understand the provenance and carbon footprint of materials."

"At P&G, we believe that sustainability is part of everything we do^e," says Hamant. "We continue to pursue resource conservation in our manufacturing footprint, facility design, transportation/distribution and product/package. Moreover, we work with our suppliers (flavor suppliers included) to help create end-to-end sustainable supply chains. We apply these practices to our oral care business as well as our other businesses."

^dMintact is a trademark of Takasago

^ewww.pg.com/en_US/sustainability/index.shtml

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