

Comparing Notes: High-impact Materials, Stability Issues and Achieving Signature

An extended conversation with beauty care perfumer Dirk Braun and household perfumer Gregory Weiss

Meet the Perfumers

Perfumer **Dirk Braun** began his career 23 years ago in his native Germany at Haarmann & Reimer. His career has led him around the globe, from Japan to Australia to Argentina to the United States, where he created fragrances for beauty care applications including mass-market fine fragrance, hair care, body wash and antiperspirants/deodorants.

Following an appointment at Dragoco, Braun eventually joined Symrise. With his chemist's background and understanding of hedonics, Braun has learned how important it is for a perfumer to love their work. "You have to keep the passion, because that's what the fragrance smells like," says Braun. "If you lose your passion, I don't think anyone will love your fragrances."

In the already rarified field of perfumers, **Gregory Weiss** stands among the few who can formulate in some of the most challenging bases, such as bleach. "A perfumer may have 2,000 materials in their palette," he says, "but to do bleach you have maybe 40. You have to be creative and make something unique." Like many of his colleagues around the world, Weiss stumbled into perfumery, beginning with a managerial position at Dragoco. At first duplicating fragrances in his spare time, his apprenticeship in challenge-base perfumery lasted more than seven years. Weiss held positions at Quest (now Givaudan) and Firmenich before joining Symrise where he formulates for functional and home care applications.



Dirk Braun, perfumer, Symrise



Gregory Weiss, perfumer, Symrise

In the first of a continuing series, colleagues exchange insights into raw materials, formulation techniques and their experiences in the fragrance industry.

In the right hands, some of the most interesting fragrance materials behave like chameleons, adapting from category to category, bringing variable hedonic and performative qualities to different applications. While they can't always be spotted, these ingredients create surprising synergies in fragrance formulas.

During a wide-ranging discussion at Symrise's New York creative studio, consumer product perfumer Dirk Braun and household perfumer Gregory Weiss talk about their formulation techniques and favored materials, beginning with Nerolione (Symrise; CAS# 23911-56-0).

This high-impact material, in the vein of methyl anthranilate (CAS# 134-20-3; FEMA# 2682), imparts a white floral scent without coloration or stability issues, making it an ideal material for the challenging bases Braun and Weiss face every day, including beauty, home and fabric care applications. Braun notes that, compared to fine fragrance perfumers, household and beauty care perfumers deal much more with strength, stability and pricing issues, in addition to hedonic quality. "We deal with very difficult bases," he says, "and the fragrance level is often much lower than in a fine fragrance. So you need materials that are really performative ... good value for money." Enter Nerolione.

"It's a very low-threshold material," Braun explains. "So even at 1.0% solution—a few grams per thousand—you can get really great effects. My expertise is beauty care: shampoos, body care, antiperspirants/deodorants. I use Nerolione a lot for the 'bloom' out of the water because right now everybody's trying to get very performative fragrances. When you use the shampoo in the shower you really need this bloom and room impact."

Braun adds that the material's effects extend beyond floral notes, giving boost when dosed sparingly to fruity themes like strawberry, melon, apple and pear. "Everybody has an apple fragrance out there," he says. "But what makes mine different or more performative than others? This is really where you have to try to play with a material. Where can I use it? Where are the synergies with other materials? It takes time." And the invaluable efforts of research perfumers.

As a booster, Braun and Weiss find Nerolione particularly useful in laundry care applications. "It's a very

Materials Discussed

- Cyclogalbanat
- Iso E Super
- Methyl anthranilate
- Nerolione
- Timberol

good ingredient for the laundry area because the fragrance is subjected to a lot of variables,” says Weiss. Detergents, for example, must survive the wash cycle, while fabric softener fragrances will be subjected to rinse and dry cycles. “Substantivity on cloth is key,” he continues, “and Nerolione is an ingredient you can use in small amounts that will survive all these points and still be very retentive. It’s a very cost-effective material.”

Braun adds, “For the perfumer, it’s a very challenging material because it’s so high-impact. It’s very easy to overdose, and then you have a negative effect. You have to learn the synergies and how to blend the material to achieve harmony with [other ingredients]. We have to be very curious—that’s a given for a perfumer.”

While Weiss may sometimes use the material at higher levels than Braun due to his work with bases such as bleach, the overall percentage is still notably low. “We might use a musk at 25% in a formula,” says Weiss. “We use some of the

woody-ambery materials at 10%, 15% or 20%. [High-impact] materials like Nerolione can be used at just five parts in a 10% solution—very low amounts. But, even at those levels, it ... may enhance the floral note and bring great body and bloom. It may not necessarily even have its own fragrance characteristic; it can have synergy—an effect where it boosts other notes in a fragrance, which is really key.”

Weiss points out that the material has been applied to the *Paradise Breeze* iteration of Renuzit Roller Scents (Dial Corp./Henkel), where it adds lift to a sweet tropical

Making a Statement: Formulating with Signature

"With *Poison* (Christian Dior), *Giorgio* (Giorgio Beverly Hills) or *Eternity* (Calvin Klein)," says Weiss, "when a woman was wearing it, you knew she was in the room. It made a statement in the market." This sense of signature is important to both Weiss and Braun.

A devotee of woody notes, Braun greatly admires *Fahrenheit* (Christian Dior), originally formulated by Florasynth (now Symrise) perfumer Jean-Louis Sieuzac. "It's such a classic, but it still smells very contemporary," says Braun. "This perfumer ... put a big amount of woods against a very light citrusy top note. And then [he] added this violet note, which is more known on the feminine fragrance side. It creates for me a very signature men's fragrance. It's very clean. You smell it once and you remember. There are not so many fragrances out there [today] that you smell once and never forget."

Weiss' affection for *Poison*, formulated by perfumers Jean Amic and (coincidentally) Jean-Louis Sieuzac while at Roure (now Givaudan), stems from the scent's polarity. "You cannot deny the fact that it made a statement in the market," he says.

fruit scent. "We like to benchmark [against it] for fresheners in this line because it's so performative that it becomes the benchmark for strength and longevity. This one material is responsible for that. Without it, the fragrance would just be a light fruity floral."

In addition to its cost and impact advantages, Nerolione has made the leap from home and fabric care to fine fragrance, notably *Insolence* (Guerlain), which was formulated by Symrise colleague Maurice Roucel.^o The scent's Nerolione dosage is significant, proving that a material developed for the home and fabric care area can be advantageous in other applications. "Nerolione really boosts the floral character of the fragrance," says Braun as he and Weiss smell blotters. "It almost has a sweet violet aspect."

Weiss adds, "When the fragrance meets the heat generated on the skin, some of these [types] of ingredients bring a lot of bloom and performance from the skin into the air."

"You really have to play with it," Braun continues. "As a perfumer, I never really believed you could use it in such big amounts. The way it's used here [in *Insolence*] is a very big amount. It's just a couple of parts, but it's radiant."

"It's not an exact science," says Weiss. "Sometimes a perfumer will use [an ingredient] once or twice and not have success and won't pursue it. And then all of a sudden someone else has great success with it, like Maurice

The scent's remarkable success, he notes, triggered a trickle-down effect into many laundry and air care products.

In an increasingly cost-conscious market, signature fragrances require not only creative perfumers, but also clients that are willing to take risks outside the narrow dictates of consumer testing. "The trick for the perfumer today," says Braun, "is to come up with something people feel comfortable with, that they know and like, but then to give it a very unique signature. It's very important to have some very unique characteristic raw materials that are different."



in this fragrance. And then all of a sudden you see it all over."

Creating Synergies in Formulas: Cyclogalbanat and Timberol

The perfumers' distinct creative identities become clearer as each speaks about his own favored material. For Weiss, the galbanumlike Cyclogalbanat (Symrise; CAS# 68901-15-5) provides affordable versatility and performance. "Natural galbanum has a green, vegetable, oniony character," he says. "Cyclogalbanat doesn't have the vegetable characteristic, but has a fresh green, galbanum, slightly fruity characteristic." The green note, adds Weiss, can be applied to fruity and floral notes, and used to support citrus. "In a lemon, for example, you need that green character to get that rindy, peely effect." These crisp effects, he says, can net natural-feeling fragrances.

"It's not too perfumey," Braun says of the material. "It's fresh and clean—more like an ozone green note than a sweet or heavy sticky green note."

In addition, says Weiss, the high-impact Cyclogalbanat lacks the negative waxy and fatty aspects one would find in some highly dosed aldehydes, which can distort fragrances. "I could add a little Cyclogalbanat [in the formula] and it will bring a positive aspect."

Braun, meanwhile, praises Timberol (Dragoco, now Symrise; CAS# 70788-30-6), a powerful woody-ambery material with strong tenacity and stability in applications

^oLook for our profile of Roucel and fellow fine fragrance perfumer David Apel in the May 2009 issue of *Perfumer & Flavorist* magazine.

such as antiperspirants/deodorants. “I’m obsessed with woody notes,” Braun admits. “To me you can create a very strong contrast in a fragrance with Timberol—a woody note and a very strong top note against it.”

In Braun’s experience, Timberol has displayed performance (if not hedonic) characteristics similar to patchouli oil. In times of patchouli shortages, the perfumer has formulated with greater amounts of Timberol to achieve the type of woody note that can be immediately perceived in the top note. “It gives you a long-lasting, powerful background,” Braun says. “It’s very complex, ambery and cedarwoody, but very clean—it’s not a dirty note.”

Despite his functional fragrance background, Braun voices inspiration in Timberol via the example of the classic fragrance *Fahrenheit* (see **Making a Statement: Formulating with Signature**). “You can put a woody note against citrus notes to give a much more sophisticated impression.” This is especially useful, he says, since citrus notes can sometimes be perceived as too functional. The contrast of the two notes will bring the citrus fragrance to “another level.” Braun adds, “You could also combine [Timberol] with green and floral characters. It will complement almost any woody note well.”

Braun also notes that such high-impact woody notes can be used to “dress up another material,” such as the high-volume commodity ingredient Iso E Super (IFF; CAS# 54464-57-2). “You can use Iso E Super up to 50% in your formula,” says Braun. “The problem is, your formula’s not going to be very original because it’s such a well-known note. On the other hand, it’s a low-cost material, which is important these days.” The solution, he says, is synergy. To this large portion of Iso E Super, a high-impact material such as Timberol can be added to make the formula richer and more ambery and performative. Those are the effects that perfumers can only develop through experimentation and trial and error.

Assembling a Palette for Performance and Signature

In the age of skyrocketing regulatory hurdles, the commercialization of a new aroma chemical can cost somewhere between \$500,000 and \$700,000. Yet these captives provide unique signature for companies’ fragrance palettes. Braun and Weiss, like many of their colleagues throughout the industry, are actively engaged in the assessment of potential new ingredients, and Weiss notes that the cost of aroma chemical production is such that the ingredient’s usefulness must be varied and widespread to achieve maximum value. Meanwhile, fragrance companies keep an eye on new launches on the market. “Not much is hidden these days because of the technology [available],” Weiss adds. This makes captives that much more important.

“That’s really how you get a creative edge and performance,” says Braun. “It’s important for perfumers to ask, ‘Which materials are the best value for the money, for the best performance?’ It’s not necessarily the cheapest material. It could very well be your most expensive [option]. You really have to do the exercise and work

with materials, and at one point you find the best ones. This is the palette you work with.”

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