



# Organoleptic Characteristics of Flavor Materials

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## Organoleptic Evaluation Panelists

- Gerard Mosciano, Consulting Flavor Chemist
- Deborah Barber, Consulting Flavorist
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- Judith Michalski
- Susie Sadural
- Tom Gibson, Vice President of R&D and Applications, Silesia Flavors
- Robert Pan, Principal Development Scientist, Spicetec Flavors & Seasonings

## 5-Methyl-2-phenyl-2-hexenal natural (synonym: cocoa hexenal)

Source: Natural Advantage

FEMA# 3199, CAS# 21834-92-4, natural

*Natural occurrence:* Cocoa, roasted hazelnut, potato chips, malt, tea, roasted peanut, mate and roasted sesame.

*Odor:* @ 1%. Musty, brown, coallike, floral and honeylike.

*Taste:* @ 3 ppm. Coallike, dark chocolate-like, brown and coffee-like.

*Taste:* @ 5 ppm. Slightly honeylike, floral, dark chocolate-like and nutty.

*Possible applications:* Brown flavors will benefit most from this material, especially cocoa, dark chocolate, coffee, malt, honey, peanut, hazelnut, black walnut and even roast meat flavors.

► **Natural Advantage;** [www.natural-advantage.net](http://www.natural-advantage.net)

## Clary sage absolute P&N

Source: Bontoux

FEMA# 3002, CAS# 8016-63-5, natural

*Odor:* @ 1%. Slightly cooling, sweet, fresh, green, floral and lavenderlike with a soapy nuance.

*Taste:* @ 1 ppm. Floral, herbal, fresh, slightly tealike and sweet.

*Taste:* @ 2 ppm. Slightly camphorlike, sweet, fresh, floral, herbal, woody and drying.

*Possible applications:* This lovely material will deepen the profile of blue-hued berries like blackberry, grape, loganberry, blueberry and black raspberry. It also will add an intriguing note to tea, lemon, lavender, herbal tea, sensen, anise and licorice.

► **Bontoux;** [www.bontoux.com](http://www.bontoux.com)

## Zingerone, natural, 20% in triethyl citrate

Source: Pearlchem

FEMA# 3124, CAS# 122-48-5, natural

*Natural occurrence:* Cranberry, ginger and raspberry.

*Odor:* @ 20%. Sweet, woody, spicy and slightly vanillinlike.

*Taste:* @ 30 ppm. Sweet, warm, slightly woody and slightly numbing.

*Taste:* @ 50 ppm. Sweet, slightly vanillinlike, slightly spicy and slightly numbing.

*Possible applications:* Vanilla and sweet spice flavors like clove, ginger and cinnamon will be enhanced by this material. Its trigeminal effect can also add interest to mint and hot pepper flavors.

► **Pearlchem;** [www.pearlchemcorp.com](http://www.pearlchemcorp.com)

## cis-4-Decenal

Source: Bedoukian

FEMA# 3264, CAS# 21662-09-9

*Natural occurrence:* Caraway, chicken, clam, cilantro, potato and yuzu.

*Odor:* @ 1%. Green, fatty, citruslike, waxy and cilantrolike.

*Taste:* @ 0.5 ppm. Green fatty, waxy, citruslike and cucumber/melonlike.

*Taste:* @ 1 ppm. Green, waxy, fatty, citruslike and cucumber/melonlike.

*Possible applications:* This material will fit nicely into flavors with predominant green, fatty profiles like cucumber, melon and cilantro, as well as citrus flavors—especially orange, tangerine and mandarin flavors and their blends. At lower levels, savory characters like chicken and chicken broth, pork, fat replacers and fried-type flavors will also be enhanced.

► **Bedoukian;** [www.bedoukian.com](http://www.bedoukian.com)

## γ-Undecalactone, natural, ex undecylenic acid

Source: Pearlchem

FEMA# 3091, CAS# 104-67-6, natural

*Natural occurrence:* Apple, apricot, butter, milk, *Osmanthus*, passionfruit, peach and plum.

*Odor:* @ 100%. Creamy, waxy, milky, cooked, fatty, buttery, slightly coconutlike and peachy.

*Taste:* @ 5 ppm. Creamy, milky, oily and fatty with a soft, peachy nuance.

*Taste:* @ 10 ppm. Peachy, creamy, waxy, fruity and slightly strawberrylike.

*Possible applications:* The very pleasing dairy notes of this material make it a good choice for adding richness in cream, sour cream, whole milk, triple cream cheese, butterscotch, toffee, fresh butter and dulce de leche flavors. It also can be used as part of the lactone complex in peach, apricot, coconut and mango flavors.

► **Pearlchem;** [www.pearlchemcorp.com](http://www.pearlchemcorp.com)

### **γ-Undecalactone, natural, ex lactic acid**

*Source:* Pearlchem

FEMA# 3091, CAS# 104-67-6, natural

*Natural occurrence:* Apple, apricot, butter, milk, *Osmanthus*, passionfruit, peach and plum.

*Odor:* @ 100%. Waxy, melted butterlike, fatty, creamy and slightly fruity.

*Taste:* @ 5 ppm. Waxy, buttery, creamy and fatty.

*Taste:* @ 10 ppm. Waxy, creamy, oily, melted butterlike and peachy.

*Possible applications:* Although very similar to γ-undecalactone ex undecylenic acid, this material exhibits stronger creamy and waxy notes, making it a good candidate for melted butter, blue cheese, goat cheese and animal fat replacers like lard and tallow, in addition to peach, apricot, coconut and the like.

► **Pearlchem;** [www.pearlchemcorp.com](http://www.pearlchemcorp.com)

### **Rose oil**

*Source:* Biolandes

FEMA# 2989, CAS# 8007-01-0, natural, *Rosa damascena* Mill.

*Odor:* @ 1%. Sweet, rosy, green, slightly earthy and floral with a hint of carrot and parsnip.

*Taste:* @ 1 ppm. Sweet, floral, oily, waxy and slightly fruity.

*Taste:* @ 2 ppm. Sweet, floral, rosy, waxy, green, fruity and slightly bitter.

*Possible applications:* This beautiful essential oil will add depth to apple, raspberry, peach, apricot, melon, tea, kiwi, lychee, rambutan, tomato, hibiscus and plum flavors, and add intrigue to mint and sweet spice flavors. Rooty flavors like beet, carrot and parsnip as well as red wine flavors also will blossom with just a touch.

► **Biolandes;** [www.biolandes.com](http://www.biolandes.com)

### **Rose oxide, natural**

*Source:* Excellentia

FEMA# 3236, CAS# 16409-43-1, natural

*Natural occurrence:* Apricot, black currant, brandy, elderberry, geranium, grape, brandy, passionfruit, rose, tea, wine and *Bembix* wasp species.

*Odor:* @ 1%. Harsh, green, dirty, vegetablelike, petroleumlike and rooty with a floral, rosy after note.

*Taste:* @ 1 ppm. Earthy, green and vegetablelike.

*Taste:* @ 2 ppm. Harsh, earthy, green, vegetablelike and woody.

*Possible applications:* Although its descriptors seem less than flattering, rose oxide plays an important role in enhancing character notes in lychee, rose, geranium, peach and green vegetable flavors like cucumber, romaine, carrot, celery and parsley. Its earthy quality also will be appreciated in tequila flavors.

► **Excellentia;** [www.excellentiaint.com](http://www.excellentiaint.com)

### **Juniper oil, selected berries**

*Source:* Biolandes

FEMA# 2604, CAS# 8002-68-4, natural, *Juniperus communis* L.

*Odor:* @ 1%. Fresh, green, woody, slightly cooling, piney and terpeney.

*Taste:* @ 1 ppm. Fresh, green and terpeney.

*Taste:* @ 2 ppm. Fresh, slightly cooling, green and terpeney with a lime nuance.

*Possible applications:* Although juniper is used universally as the predominant flavoring in gin, this product offers a slightly different profile. Its fresh, terpeney quality can be used to deepen mango, lime, orange and grapefruit flavors whereas its green notes will enhance vegetable flavors like cucumber, lettuce, watercress, wasabi and mints.

► **Biolandes;** [www.biolandes.com](http://www.biolandes.com)

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