



Organoleptic Characteristics of Flavor Materials

Judith Michalski, Senior Flavorist, abelei flavors; jmichalski@abelei.com

Organoleptic Evaluation Panelists

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

4,5-Dimethyl-3-hydroxy-2,5-dihydrofuran-2-one, 1% in ethanol, natural (synonyms: caramel furanone, sotolone)

Source: Vigon

FEMA# 3634, CAS# 28664-35-9, natural

Natural occurrence: Coffee, fenugreek seed, honey, maple, pineapple sherry and tobacco.

Odor: @ 1%. Brown, maplelike, caramellic, sweet and burnt sugarlike with a solvent note.

Taste: @ 2 ppm. Sweet, brown, burnt sugarlike, caramellic and maplelike with a hint of walnut skin.

Taste: @ 5 ppm. Brown, maplelike, caramellic, nutty and astringent.

Possible applications: The profiles of nut flavors like pecan, walnut and hazelnut will be deepened by this furanone, as will brown flavors, especially maple, caramel, butterscotch, toffee, chocolate, coffee and molasses. Savory flavors like celery, cooked tomato and soy sauce are also good choices for this material.

►Vigon: www.vigoninternational.com

2-Isopropyl-5-methyl-2-hexenal (synonym: isodihydrolavandulal)

Source: Bedoukian

FEMA# 3406, CAS# 35158-25-9

Natural occurrence: Cocoa.

Odor: @ 1%. Oily, herbal, floral, green, woody and cedarlike.

Taste: @ 1 ppm. Floral, sweet and woody.

Taste: @ 2 ppm. Floral, green, woody and herbal.

Possible applications: The floral, woody profile of this component makes it a good candidate for use in berry flavors including raspberry, blueberry, black cherry and cranberry.

►Bedoukian: www.bedoukian.com

Bois de rose oil

Source: Bontoux

FEMA# 2156, CAS# 8015-77-8, natural, *Aniba rosaeodora* Ducke

Odor: @ 1%. Sweet, fresh, floral, linalool-like, slightly cooling and slightly woody.

Taste: @ 1 ppm. Floral and linalool-like.

Taste: @ 2 ppm. Floral, slightly citruslike, fresh, linalool-like and slightly woody.

Possible applications: A touch of this material will add interest to citrus flavors such as orange, mandarin and lemon. Its fresh, floral notes will bring depth to dark berry flavors like grape, blueberry and blackberry, and add mystery to mint flavors.

►Bontoux: www.bontoux.com

β-Methylphenethyl alcohol, natural (synonym: 2-phenylpropyl alcohol)

Source: Advanced Biotech

FEMA# 2732, CAS# 1123-85-9, natural

Not yet found in nature.

Odor: @ 100%. Sweet, honeylike, slightly floral and cinnamic.

Taste: @ 5 ppm. Slightly sweet, floral and cinnamic.

Taste: @ 10 ppm. Bitter, sweet, cinnamic and floral.

Possible applications: The general floral notes of this compound will enhance flavors such as rose, honey, tea and dark berry flavors including blackberry and blueberry.

►Advanced Biotech: www.adv-bio.com

2,3-Epoxyoctanal

Source: Treatt

FEMA# 4657, CAS# 42134-50-9

Natural occurrence: Oats and black tea.

Odor: @ 100%. Fatty, waxy, slightly citrus and orangelike.

Taste: @ 4 ppm. Waxy, fruity and citruslike.

Taste: @ 8 ppm. Sweet, citrus and waxy with a hint of melon.

Possible applications: The fruity, waxy notes of this chemical will be useful in bringing out the heavier, zesty qualities in citrus flavors, especially orange, tangerine, grapefruit and lemon. It might also be considered for use in cucumber and melon flavors.

►Treatt: www.treatt.com

2,3-Epoxydecanal

Source: Treatt

FEMA# 4659, CAS# 102369-06-2

Not yet found in nature.

Odor: @ 100%. Fatty, waxy, animal fatlike, aldehydic and slightly citrus.

Taste: @ 5 ppm. Fatty, waxy and slightly fruity.

Taste: @ 10 ppm. Fatty, waxy, soapy and slightly citrus.

Possible applications: The fatty notes of this newer FEMA material will add body to fat-replacer flavors such as tallow and lard. It also will emphasize rind notes in melon and citrus flavors.

►**Treatt:** www.treatt.com

4-Hydroxy-3-methyloctanoic acid γ -lactone, natural (synonym: whiskey lactone)

Source: Pearlchem

FEMA# 3803, CAS# 39212-23-2, natural

Natural occurrence: Cognac, Irish malt, rum, sherry, bourbon whiskey, Scotch whiskey and port wine.

Odor: @ 1%. Sweet, coconutlike, coumarinic and creamy.

Taste: @ 0.5 ppm. Sweet, creamy, slightly herbal, coumarinic.

Taste: @ 1 ppm. Sweet, coconutlike, coumarinic and creamy with a dairy note.

Possible applications: While the sweet, coumarinlike notes of this lactone will certainly enhance vanilla and coconut flavors, its true potential is realized in wood-aged alcoholic flavors where it brings depth and sweetness to whiskey, rum and the like. Brown flavors including chocolate, brown sugar, caramel and praline are also good considerations.

►**Pearlchem:** www.pearlchemcorp.com

Black pepper oleoresin

Source: Ventos

FEMA# 2846, CAS# 8002-56-0, natural, *Piper nigrum* L.

Odor: @ 1%. Spicy, terpeney, green, fresh, woody and black pepper.

Taste: @ 2 ppm. Spicy, terpeney, woody and black pepper.

Taste: @ 4 ppm. Warm, spicy, woody, terpeney and black pepper with a characteristic bite.

Possible applications: This very characteristic oleoresin will be a welcome addition to all spice blends using black pepper. It also will be appreciated in ginger ale, root beer and cola flavors.

►**Ventos:** www.ventos.com

dextro-Carvone, natural

Source: Vigon

FEMA# 2249, CAS# 2244-16-8, natural

Natural occurrence: Dill, caraway, lavender and spearmint.

Odor: @ 100%. Dill-like, carawaylike, fresh, spicy and slightly minty.

Taste: @ 1 ppm. Spicy, fresh and carawaylike.

Taste: @ 2 ppm. Slightly cooling, fresh, slightly spearmintlike, carawaylike and dill-like.

Possible applications: Spice/herbal flavors and blends are the prime beneficiaries of this material, where it will add depth and character to cumin, anise, caraway and dill. It also will add a twist to mint and liqueur flavors like kummel.

►**Vigon:** www.vigoninternational.com

2,3,5-Trimethyl pyrazine, 1% in propylene glycol, natural

Source: Pearlchem

FEMA# 3244, CAS# 14667-55-1, natural

Natural occurrence: Cocoa, roasted almond, roasted barley, bee, bread, coffee, popcorn, shrimp, tobacco and peanuts.

Odor: @ 1%. Musty, brown, nutty, peanutlike, baked potato skinlike and coallike.

Taste: @ 1 ppm. Musty, nutty and earthy.

Taste: @ 2 ppm. Brown, musty, nutty, earthy and coallike.

Possible applications: The nutty, brown goodness of this pyrazine will enhance those notes in flavors like cocoa, dark chocolate, peanut, hazelnut and roasted almond. Other good flavor applications for this material are baked potato skin, coffee, roasted meats like chicken and beef and “fire roasted” notes.

►**Pearlchem:** www.pearlchemcorp.com

To purchase a copy of this article or others, visit www.PerfumerFlavorist.com/magazine. 