



Organoleptic Characteristics of Flavor Materials

Gerard Mosciano

Gerard Mosciano is joined by Judith Michalski, senior creative flavorist, Edlong Flavors; Carl Holmgren, consulting flavor chemist.; and Douglas Young, principal flavorist, Symrise, in the organoleptic evaluations presented here.

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Allyl Undecylenate

Source: Tasteful Solutions

FEMA# 2044, CAS# 7493-76-7

Not reported found in nature.

Odor: @ 1.0 percent. Powdery, fatty coconut, waxy and dairy-like with a slight fruity pineapple nuance.

Taste: @ from 2.5-10 PPM. Powdery, dry waxy with a slight floral finish.

Possible applications: Milk, cheese and dairy nuances, pineapple, coconut and lamb.

► **Tasteful Solutions;** *tel:* 570-629-0479; *chemist@pnpa.org*

Butyl Butyryl Lactate

Source: Aldrich

FEMA# 2190, CAS# 7492-70-8, Natural

Not reported found in nature.

Odor: @ 1.0 percent. Creamy, fatty, dairy-like, stale milky with waxy coconut-like nuances.

Taste: @ 5 PPM. Creamy mouth feel, buttery dairy, waxy, milky with coconut and cheesy nuances.

Possible applications: Milk, coconut, dairy applications such as cream and butter, coumarin, nut nuances for pecan and macadamia, avocado, cherry and blueberry nuances.

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Butyl Ethyl Malonate

Source: Tasteful Solutions

FEMA# 2195, CAS# 17373-84-1, Artificial

Not reported found in nature.

Odor: @ 1.0 percent. Sweet fruity with an oily apple-like nuance.

Taste: @ 10 PPM. Fruity, sweet, faintly woody with a drying mouth feel.

Possible applications: Apple, cherry, grape, raspberry, strawberry.

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β-Damascenone

Source: Aldrich

FEMA# 3420, CAS#

23696-85-7, Natural

Natural occurrence:

Apple juice, apricot, black currant, grape, raspberry, strawberry, cognac, rum, whiskey and scotch.

Odor: @ 1.0 percent. Sweet, brown woody, tobacco, davana-like fruity, with a spicy balsamic undertone.

Taste: @ 1-5 PPM. Sweet brown, tobacco and tea-like, davana dried fruity, with jammy berry, strawberry and raspberry nuances.

Possible applications: All brown fruits, apricot, prune,



ginger, strawberry, licorice, sen-sen, red berries, whiskey and rum, red wine.

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4,5-Dimethyl-3-Hydroxy-2,5-Dihydrofuran-2-one (Synonym: Sotolon and Caramel Furanone)

Source: Aldrich

FEMA# 3634, CAS# 28664-35-9

Natural occurrence: Fenugreek seed, roasted Virginia tobacco, sake, rice wine.

Odor: @ 1.0 percent. Sweet, strong brown, cyclotene and maple-like, caramel, toffee, maltol-like and burnt, brown sugar fenugreek-like, cooked and syrupy.

Taste: @ 5-25 PPM. Sweet, caramel, maple, walnut, brown sugar, nutty, cotton candy, fenugreek and celery-like, rum, roasted meaty with a honey nuance.

Possible applications: Malt, molasses, brown sugar notes for colas, walnut, maple, caramel, roasted meaty nuances, break, woody cask notes, coffee, HVP and vanilla modifiers.

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E-2-Octen-1-ol

Source: Aldrich

FEMA# 3887, CAS# 18409-17-1

Natural occurrence:

Apple, bilberry, guava, orange, melon, peas, potato, chicken, cognac, rum and mushroom.

Odor: @ 1.0 percent. Oily, slightly nutty, fatty waxy, stale creamy, chicken fatty with an old cucumber green nuance.

Taste: @ 1-5 PPM. Green, slightly oxidized oily and nutty, chicken fatty, goaty and creamy on dry out with a cucumber rind nuance.

Possible applications: Nut flavors, tallow, lard, avocado, chicken, mushroom, potato, cucumber, melon flavors and seafood nuances.

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Ethyl 2-(Methylthio) Acetate

Source: Aldrich

FEMA# 3835, CAS# 4455-13-4

Natural occurrence: Apple and melon.

Odor: @ 1.0 percent. Sweet ethereal, rummy with a fruity sulfurous note, slightly vegetative cauliflower with a garlic nuance.

Taste: @ 1-2 PPM. Sweet, fruity melon with an

uplifting rummy undertone.

Possible applications: Tropical notes for various fruits, peach, apricot, strawberry, whiskey and grape, onion and garlic, vegetative nuances.

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α-Farnesene

Source: Aldrich

FEMA# 3839, CAS# 502-61-4

Natural occurrence: Apple, grapefruit juice, mandarin and lime peel, grape, pear, nutmeg and basil.

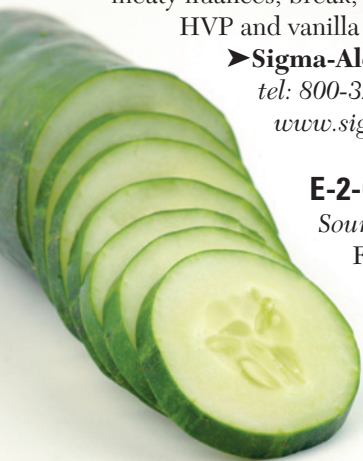
Odor: @ 1.0 percent. Dry woody, green leafy, herbal and vegetative with a floral nuance. It has juniper berry and citrus nuances.

Taste: @ 10-20 PPM. Woody juniper berry and woody, berry-like with nuances of ginger and tropical mango.

Possible applications: Gin, vegetable nuances, citrus nuances, tropical flavors such as mango, berry flavors such as blueberry and raspberry.

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Geranyl Tiglate

Source: Aldrich

FEMA# 4044, CAS# 7785-33-3

Natural occurrence: Kumquat and geranium oil.

Odor: @ 1.0 percent. Fresh sweet green melon with a slight harsh herbaceous melonal nuance with a powdery rosy nuance.

Taste: @ from 5-10 PPM. Green, esty melon, berry seedy with a floral and slightly fatty nuance.

Possible applications: Melon, berry, guava,

peppermint, lemon and lime, spearmint, tea, rose nuances, cucumber, tomato, tobacco and tamarind flavors.

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3-Heptanyl Acetate

Source: Tasteful Solutions

FEMA# 3980, CAS# 5921-83-5

Not reported found in nature.

Odor: @ 1.0 percent. Powdery, floral geranium-like, fruity with a fresh plum nuance.

Taste: @ 10 PPM. Strong powdery, floral rosy with a dry herbaceous fruity finish.

Possible applications: Honey, cranberry, cherry, apricot, plum, tropical flavors such as guava, citrus lime nuances.

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α-Iso Butyl Phenyl Ethyl Alcohol

Source: Aldrich

FEMA# 2208,

CAS# 7779-78-4

Not reported found in nature.

Odor: @ 1.0 percent.

Herbaceous, warm celery-like, musty and creamy with a slight floral citrus nuance.

Taste: @ 10 PPM. Warm, amber sclarolide herbaceous celery-like with oily and creamy nuances.

Possible applications: Seasonings, chicken, honey, cocoa, cordials, tobacco, Concord grape, peach, rose, mushroom, mango and mint blends.

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**2-Methoxy 4-Methyl Phenol**

Source: Aldrich

FEMA# 2671, CAS# 93-51-6,

Natural

Natural occurrence: Coffee, gruyere cheese, pork, beer, rum, bourbon whiskey, malt, sherry, cocoa, tea, mushroom, bourbon vanilla, green mate, jasmine flowers.

Odor: @ 1.0 percent. Smoky,



sweet, phenolic, vanilla, spicy clove with a floral carnation nuance.

Taste: @ 1.0-1.25 PPM. Sweet phenolic, smoky, guaiacol-like with a woody nuance.

Possible applications: Vanilla, smoke flavors, meat, cheese, coffee, chocolate, root beer, barbeque sauces, whiskey and rum.

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Methyl Anisate

Source: Bell Flavors

FEMA# 2679, CAS# 121-98-2, Natural

Natural occurrence: Cocoa, guava, mushroom.

Odor: @ 10.0 percent. Sweet, creamy, anisic vanilla-like, slightly spicy, woody and powdery heliotropine-like.

Taste: @ 10 PPM. Spicy, sweet, anisic-like with a

woody vanilla, licorice and methyl salicylate nuances and with a lingering sweet coumarin vanilla aftertaste.

Possible applications: Vanilla, licorice, cream flavors, yellow tropical fruits, melon and root beer flavors.

► **Bell Flavors;** *tel:* 847-291-8300;
www.bellff.com

4-Methyl Eugenol

Source: Bell Flavors

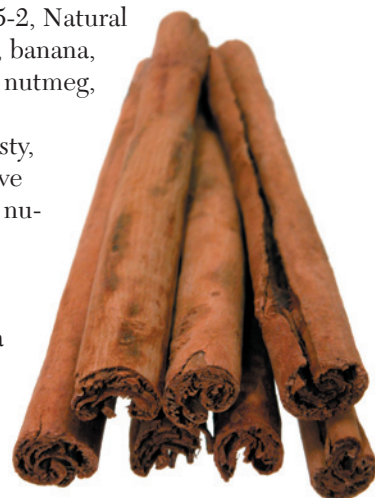
FEMA# 2475, CAS# 93-15-2, Natural

Natural occurrence: Anise, banana, basil, cinnamon, cloves, nutmeg, plum and raspberry.

Odor: @ 10.0 percent. Musty, slightly earthy, spicy clove with a woody medicinal nuance.

Taste: @ 1.5 PPM. Sweet, spicy clove, vanilla-like, medicinal, woody with a slightly brown bite.

Possible applications: Vanilla, clove, spicy red fish gummies,



confections and chewing gum, raspberry and chocolate nuances.

► **Bell Flavors**; tel: 847-291-8300;
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3-Nonanyl Acetate

Source: Tasteful Solutions
FEMA# 4007, CAS# 60826-15-5, Artificial
Not reported found in nature.

Odor: @ 1.0 percent. Sweet fruity green apple skin with an aldehydic background.

Taste: @ 10 PPM. Fruity, waxy and floral with a powdery aftertaste.

Possible applications: Peach, apricot, tropical nuances for mango and guava, citrus nuances.

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2,3-Pentanedione (Synonym: Acetyl Propionyl)

Source: Aldrich
FEMA# 2841, CAS# 600-14-6, Natural
Natural occurrence: Butter, cocoa, coffee, potato chips, roasted almonds, pecans, wheat bread and yogurt.

Odor: @ 1.0 percent. Buttery diacetyl-like, fermented dairy and creamy, popcorn buttery.

Taste: @ 1-5.0 PPM. Sweet buttery, creamy, cheesy, slightly toasted dairy, with a rich baked goods nuance and a good mouth feel.

Possible applications: Butter, cheese, cream, butterscotch, toffee, caramel, fruity nuances, condensed milk, baked goods, ghee, nuances for nuts such as pecan and macadamia.

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Phenyl Acetaldehyde

Source: Aldrich
FEMA# 2874, CAS# 122-78-1, Natural
Natural occurrence: Apple, apricot, bilberry, cherry, grapefruit, guava, orange peel, peach, raisin, grape, asparagus, blackberry, papaya, melon, cabbage, sweet pepper and celery leaves.

Odor: @ 1.0 percent. Sweet, floral honey, rosy and slightly powdery with a fermented note, cocoa and tobacco with a yellow tropical fruity nuance.

Taste: @ 5.0 PPM. Honey, sweet, floral, fruity, herbal, tobacco and cocoa-like.

Possible applications: Honey, cocoa and chocolate, peanut, rose floral notes, whiskey and tobacco, cognac, papaya

and guava, malt and yeast.

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Syringaldehyde (Synonym: 4-Hydroxy-3,5-Dimethoxybenzaldehyde)

Source: Aldrich
FEMA# 4049, CAS# 131-96-3

Natural occurrence: Pineapple, beer, grape brandy, rum, many different whiskey products, sherry, roasted barley and hardwood smoke.

Odor: @ 1.0 percent. Weak sweet, slightly smoky, cinnamonic, vanilla, leather-like with a phenolic medicinal nuance.

Possible applications: Vanilla, cinnamon, brown sugar, chocolate and whiskey blenders.

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trans-2-Hexen-1-ol

Source: Aldrich
FEMA# 2560, CAS# 505-57-7, Natural

Natural occurrence: Apple, blueberry, cucumber, apricot, avocado, blueberry, peach, pear, strawberry, tea and tobacco.

Odor: @ 1.0 percent. Pungent green fatty, fresh fruity aldehydic, with fresh leafy apple and watermelon nuances.

Taste: @ 5 PPM. Fruity, fresh green, herbal and vegetative, apple and melon with a slight yeasty nuance.

Possible applications: Orange, cucumber, apple, strawberry, blueberry, berries in general, pear, banana and tea.

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Zingerone [Synonym: 4-(4-Hydroxy-3-Methoxyphenyl)-2-Butanone]

Source: Aldrich
FEMA# 3124, CAS# 122-48-5, Natural
Natural occurrence: Cranberry and ginger.

Odor: @ 10.0 percent. Low impacting, creamy, spicy eugenol clove-like with a slight balsamic vanilla-like note.

Taste: @ 20 PPM in 5 percent sugar solution. Smooth sweet, creamy and warm, spicy clove with a slight lingering burning bite.

Possible applications: Vanilla, ginger, root beer, raspberry and cherry.

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