



Organoleptic Characteristics of Flavor Materials

by Gerard Mosciano

his continuing series of publications report on reviews of flavor materials by a group of creative flavorists. The first article in this series (*Perfumer & Flavorist*, Volume 14, November/December 1989, page 47) described the background and rationale for these reviews.

Gerard Mosciano is joined by Judith Michalski, senior creative flavorist, Edlong Flavors; Carl Holmgren, chief creative flavorist, director of flavor development, Brooklyn by Perfetti Ltd.; and Douglas Young, senior creative flavorist, Dragoco, in the organoleptic evaluations presented here.

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Suppliers of most materials found in this report can be located in *Allured's Flavor & Fragrance Materials* published by Allured Publishing Corporation, 362 South Schmale Road, Carol Stream, IL 60188-2787 USA, telephone 630/653-2155, fax 630/653-2192.

3-Methyl Crotonic Acid

Source: Aldrich

FEMA# 3187, CAS# 541-47-9, Nature identical

Natural Occurrence: Coffee, raspberry, Virginia tobacco.

Odor: @ 1 percent. Musty, woody, slightly caramellic, ashy tobacco and slightly burnt.

Taste: @ 10 PPM. Woody, caramellic, cardboard, ashy tobacco and slightly metallic.

Possible Applications: Tobacco, coffee, vanilla, whisky blenders, woody notes of oak.

Aldrich Chemical Co. Inc.; tel: 414-273-3850; www.sigmaaldrich.com

3-Octyl Formate

Source: Fontarome

FEMA# 2809, CAS# 112-32-3, Nature identical

Natural Occurrence: Cooked beef.

Odor: @ 1 percent. Waxy, fatty, soapy coconut, green cucumber-like and slightly aldehydic with a hint of chicken fat and tallow.

Taste: from 1 to 5 PPM. Waxy mouth feel, mild green, vegetative and fruity.

Possible Applications: Coconut, green vegetative notes, spearmint, tropical

fruits, apricot and peach, chicken fat and tallow nuances, citrus nuances.

Fontarome; tel: 414-744-3993;
www.fontaromechemical.com

Acetyl Valeryl

Source: Frutarom

FEMA# 2543, CAS# 96-04-8, Natural identical

Natural Occurrence: Beer, rum, soy sauce and tomato.

Odor: @1.0 percent. Fruity strawberry, cooked dairy buttery, creamy cheddar cheese and butterscotch-like with a dairy fatty and oily nuance.

Taste: @ 10 PPM. Fatty and creamy, cheddar cheese, cooked fruity with acidic, buttery and walnut-like nuances.

Possible Applications: Walnut, cheddar cheese and creamy nuances, butter and butterscotch, brown sugar, baked goods and rum.

Frutarom; tel: 201-861-9500 www.frutarom.com

β -Caryophyllene Rich Fractions Natural

Source: A.M. Todd

FEMA# 2252, CAS# 87-44-5, Natural

Natural Occurrence: Citrus fruits, berries, black currant, tropical fruit species, herbs, beer, cocoa, tea, pecan, gin, burley tobacco, capsicum species, clover, ginger, guava and juniper berries.

Odor: @ 1.0 percent. Spearmint minty, cooking, rich aromatic, woody and spicy with whisky and clove-like nuances.

Taste: @ 10 PPM. Cooling, spearmint minty, aromatic,

woody, spicy with an alcoholic tongue bite and a clove-like spicy aftertaste.
Possible Applications: Spice blends, spearmint, wintergreen, tropical fruit nuances, gin and other alcoholic flavors, catsup flavors, oral care products.
A.M. Todd; 269-343-2603; www.amtodd.com

Butyl-2-Decenoate

Source: Fontarome
FEMA# 2194, CAS# 7492-45-7, Artificial
Not reported found in nature.
Odor: @ 1.0 percent. Waxy, fruity, green, milky dairy and creamy, slightly melon

and cucumber-like with an orris-like nuance.
Taste: from 1 to 10 PPM. Waxy, green, creamy pear and unripe mango, coconut creamy and milky dairy with a slight chicken fat nuance.
Possible Applications: Apple, tropical depth, pear, coconut, vegetative nuances, mushroom, chicken and mutton, cooked dairy and milk, cheese nuances, toffee and caramel creamy notes.
Fontarome; tel: 414-744-3993;
www.fontaromechemical.com

Capric Acid Natural

Source: Fontarome
FEMA# 2364, CAS# 334-48-5, Natural
Natural Occurrence: Beer, blue cheese, burley tobacco, butter, cheddar cheese, coconut, cooked beef, lamb and mutton, yogurt, pork, milk, rum, whisky and strawberry.
Odor: @ 1.0 percent. Candle waxy and rich fatty, cheesey dairy with milky and buttery notes, condensed milk richness.
Taste: from 5 to 10 PPM. Mild dairy, candle waxy, fatty, creamy and milky; rich with a wine lees nuance.
Possible Applications: Condensed milk depth notes, cream, butter, butter scotch, coconut, body and depth notes in dairy and cheese flavors in general, plum, rum and nectarine fruity nuances.
Fontarome; tel: 414-744-3993;
www.fontaromechemical.com

Cinnamic Alcohol

Source: Givaudan
FEMA# 2294, CAS# 104-54-1,
Nature identical
Natural Occurrence: Cranberry, sour cherry, bilberry, cinnamon and cassia, guava, strawberry, raspberry and apple.
Odor: @ 1 percent. Sweet, spicy cinnamon with floral balsamic, fruity cherry and vanitrope-like rum notes.
Taste: @ 10 PPM. Spicy, balsamic, woody, sweet cinnamon-like with floral nuances.
Possible Applications: Brandy, cocoa, cinnamon, honey, nut flavors, cola, grape, apricot, raisin and whisky flavors.
Givaudan; tel: 513-948-8000;
www.givaudan.com

Cinnamic Aldehyde

Source: Advanced Biotech

FEMA# 2286, CAS# 104-55-2, Natural

Natural Occurrence: Sour cherry, tomato, cinnamon, red wine, black tea, guava, cassia, beer, cognac.

Odor: @ 1.0 percent. Sweet spicy, warm, woody cinnamic, cinnamon bark, phenolic clove-like with a fruity resinous nuance.

Taste: @ 1 PPM. Spicy, woody, warm cinnamic, sweet medicinal with a fruity phenolic nuance.

Possible Applications: Spice notes, mouthwash and other oral care products, cola flavors, Dentyne-like gum notes, cassia blends, bubble gum notes, red-hot confections, juicy fruit and cherry flavors.

Advanced Biotech; tel: 559.651.2042; www.adbio.com

cis-4-Decenal

Source: Bedoukian

FEMA# 3264, CAS# 30390-50-2, Nature identical

Natural Occurrence: Cooked beef and chicken, soybeans.

Odor: @ 1.0 percent. Diffusive, waxy, rancid, citrus orange-like.

Taste: @ 1.0 PPM. Waxy, rancid, citrus orange, tropical fruity and apricot.

Possible Applications: Tropical fruit, mango, guava, melon, apricot, peach, citrus top notes, fatty meaty and chicken notes.

Bedoukian; tel: 203-830-4000; www.bedoukian.com

Cyclamen Aldehyde

Source: Polarome

FEMA# 2743, CAS# 103-95-7, Nature identical

Natural Occurrence: Nutmeg.

Odor: @ 1 percent. Floral, waxy, melon and cucumber, green fruity with a vegetative nuance.

Taste: @ 3 PPM. Green, floral, fresh, fatty and aldehydic, fruity, vegetative.

Possible Applications: Melon, citrus, tea and spice notes, watermelon and tropical nuances.

Polarome; tel: 201-309-4500; www.polarome.com

D-Carvone

Source: Berje

FEMA# 2249, CAS# 2244-16-8, Nature identical

Natural Occurrence: Caraway seed, dill seed.

Odor: @ 1.0 percent. Sweet, earthy, dill spice, anise, minty, spearmint, cooling herbal, caraway and bready.

Taste: @ 50 PPM. Sweet, spicy, herbal, cooling, caraway with rye bread notes.

Possible Applications: Anise, bready notes, caraway and other essential oil recreations, spice blends, mint nuances, orange and yellow cake notes.

Berje; tel: 973-748-8980; e-mail: berjeinc@aol.com

Dimethyl Benzyl Carbinyl Acetate

Source: Kato-Nickstadt Moeller

FEMA# 2392, CAS# 151-05-3, Artificial

Not reportedly found in nature.

Odor: @ 1 percent. Sweet, floral jasmine and rose, aromatic, fruity raspberry, honey-like with a woody nuance.

Taste: @ 5 PPM. Fruity, blackberry and raspberry, woody, floral jasmine and rose with an herbal nuance.

Possible Applications: Blackberry, raspberry, blackberry, strawberry, honey, tea, apricot and peach, jasmine and rose notes.

Kato-Nickstadt Moeller; tel: 201-943-9300; e-mail: katonm@aol.com

γ -Methyl Ionone, α -Cetone

Source: Givaudan

FEMA# 2714, CAS# 127-51-5, Nature identical

Natural Occurrences: Tobacco and peach.

Odor: @ 1.0 percent. Sweet, fruity, woody ionone with an orris floral nuance.

Taste: @ 3 PPM. Floral, violet-like, fruity raspberry and strawberry with woody ionone orris-like notes.

Possible Applications: Raspberry, strawberry, tea, grape and orange and tobacco nuances.

Givaudan; tel: 513-948-8000; www.givaudan.com

Isovaleraldehyde: 3-Methyl Butyraldehyde

Source: Fontarome

FEMA# 2692, CAS# 590-86-3, Natural

Natural Occurrence: Many fruits, citrus, peas, tomatoes, mint, bread, dairy products, meat, fish, mushroom, black currant, chocolate, avocado, blue cheese, potato, potato chips, fish and coffee.

Odor: @ 1.0 percent. Pungent, chemical, sharp, musty, diffusive, nutty, green cocoa, orange fruity.

Taste: @ 5 PPM. Musty, dirty, nutty, cocoa, bready, yeasty, malt-like with a green nuance.

Possible Applications: Citrus nuances, cocoa, cucumber, mushroom, nut flavors, bread, apple, banana, nut flavors, tomato and yeast nuances, tea and sour cream flavors.

Fontarome; tel: 414-744-3993;

www.fontaromechemical.com

Linalyl Proionate

Source: Aldrich

FEMA# 2645, CAS# 144-39-8, Nature identical

Natural Occurrence: Orange, lemon and kumquat peel oils, hop, lavender oil.

Odor: @ 1 percent. Sweet, fruity, floral rosy, blue berry, green spicy, citrus orange and bergamot-like with pear, guava, woody nuances.

Taste: @ 10 PPM. Green fruity, floral, tropical fruity with hay and peppery notes.

Possible Applications: Banana, pear, tropical fruits such as mango and guava, pepper, spice notes, blueberry, strawberry, citrus bergamot, apricot, peach, orange and pineapple.

Aldrich Chemical Co. Inc.; tel: 414-273-3850;

www.sigmaaldrich.com

Maltone Extra

Source: Elan

Natural

Odor: @ 100 percent. Bready, sweet, caramellic brown, powdery cocoa-like with a slight nutty nuance.

Taste: @ 100 PPM + 3 percent sugar. Roasted, burnt, nutty, molasses-like, toffee, caramellic and coffee with a slight bitter note.

Possible Applications: Malt, molasses, pralinenotes, brown sugar, chocolate, toffee, bread, maple, cookies and cakes, pie crust flavors, cheddar cheese and popcorn nuances, yeast, coffee, nut notes and butterscotch.

Elan; tel: 973-344-8014

Methyl Cinnamate

Source: Symrise

FEMA# 2698, CAS# 103-26-4, Nature identical

Natural Occurrence: Basil, cranberry, cinnamon,

guava, plum and strawberry.

Odor: @ 1.0 percent. Sweet, spicy, fruity with cherry, strawberry and berry notes; balsamic and musty.

Taste: @ 10 PPM. Sweet, spicy, coumarin notes, strawberry and other berries, plum and cherry fruity notes.

Possible Applications: Cherry, cinnamon, raspberry and strawberry, vanilla, peach, blueberry, balsamic and coumarin nuances.

Symrise; www.symrise.com

Methyl Octine Carbonate

Source: Givaudan

FEMA# 2726, CAS# 111-80-8,
Artificial

Not reported found in nature.

Odor: @ 1.0 percent. Green, leafy, waxy, oily with pear, melon, cucumber and metallic herbal nuances.

Taste: @ 1.0 PPM. Green leafy vegetative, herbaceous with fruity nuances.

Possible Applications: Unripe banana, peach, cucumber, violet, melon and apple.

Givaudan; tel: 513-948-8000;
www.givaudan.com

Tolu Balsam Absolute

Source: Givaudan

FEMA# 3069, CAS# 9000-64-0,
Natural

Odor: @ 1 percent. Sweet balsamic, aromatic, slightly cinnamic with a floral vanilla note.

Taste: @ 5 PPM. Bitter aromatic, spicy cinnamic and vanilla-like.

Possible Applications: Vanilla and vanilla extenders, custard, nut flavors, wild cherry and spice nuances.

Givaudan; tel: 513-948-8000;
www.givaudan.com

Vanillin Ex Tumeric

Source: Provo

FEMA# 3107, CAS# 121-33-5,
Natural

Natural Occurrence: Vanilla beans, gum benzoin, Peru balsam, clove bud oil, citronella oil, black currants, coffee, malt, milk, raspberry, roasted barley, straw - berry.

Odor: @ 1 percent. Sweet, vanilla, creamy, phenolic with a slight caramellic nuance.

Taste: @ 50 PPM. Sweet, powdery

creamy vanilla.

Possible Applications: Vanilla, cream flavors, coconut, cocoa, chocolate modifiers, butter, marshmallow and other confections, milk and dairy flavors, frozen toppings, ice cream flavors. ■