

Organoleptic Characteristics of Flavor Materials



By Gerard Mosciano

Gerard Mosciano is joined by Wayne Pohero, senior flavorist, INNOVA Inc.; Judith Michalski, chief creative flavorist, Silesia 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.

Editor's Note—This is a series of articles reporting on reviews of flavor materials. Mosciano is the originator of this service feature and leader of the teams that have been contributing to this column for more than ten years. The first article in this series (*Perfumer & Flavorist*, Volume 14, November/December 1989, page 47) described the background and rationale for these reviews.

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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.

All evaluation solutions were diluted with ethyl alcohol unless otherwise stated. Natural occurrences were from the Leffingwell Database.

Zestorial (2,8-Epithio-p-menthane)

CAS# 68398-18-5, Artificial, Nature Identical

Odor: @ 1.0%. Sulphurous with grapefruit-like note. It has green vegetative and minty tropical nuances of passion fruit and papaya as well as peach and apricot.

Taste: from 50 to 1 PPM. Sulphurous with juicy fruity notes. It has tropical nuances of passion fruit, pineapple and mango. It imparts a grapefruit citrus note. The sulfurous note also imparts an Asafetida and vegetative nuance.

Potential Applications: Grapefruit top notes, tropical notes for passion fruit, mango, papaya, pineapple and Durmian. It would also contribute nuances to black currant, apricot and peach as well as sulfurous nuance to tomato.

Methyl Citronellate

FEMA # 3361, CAS# 2270-60-9, Artificial, Nature Identical

Natural Occurrence: Colytrix Tetragona.

Odor: @ 1.0%. Sweet geranium floral and waxy, with winy and fruity nuances.

Taste: @ 1 - 25 PPM. Floral with rosy bergamot and geranium notes, waxy and soapy cognac and winy nuances.

Potential Applications: Apple, pear, apricot, bergamot citrus, wine and cognac nuances.

Acetophenone

Supplier: Alfrebro

FEMA# 2005, CAS# 100-06-1, Natural, Nature Identical

Natural Occurrence: Anise seed, grape, mango and Virginia tobacco.

Odor: @ 1.0%. Sweet, cherry pit, marzipan and coumarinic. It has a slight almond nutty and heliotropine-like vanilla nuance.

Taste: @ 3.5-10 PPM. Powdery, bitter almond cherry pits-like with coumarinic and fruity nuances.

Potential Applications: Almond, cherry pit, vanilla, coumarin substitutes, marzipan, honey and raspberry.

Coffee Concentrate #50

Supplier: Danisco Cultor

CAS# 84650-00-0, Natural

Natural Occurrence: Coffee.

Odor: @ 100%. Roasted coffee with burnt and ashy beany nuances. It has a hint of cocoa/chocolate with a mild oily and caramellic note on dry out.

Taste: @ 0.2-1.0%. Roasted espresso coffee with burnt and ashy nuances, slightly bitter and astringent with some roasted savory soy and beef-like nuances.

Potential Applications: Italian roasted coffee, roast savory as well as cocoa/chocolate nuances.

Propyl Heptanoate

Supplier: Aldrich

FEMA# 2948, CAS# 7778-87-2, Artificial, Nature Identical

Natural Occurrence: Apple and rum.

Odor: @ 1.0%. Sweet, ripe, fruity apple, pear, pineapple, grape

and strawberry notes. It imparts a slightly fermented cognac nuance and has juicy tutti frutti and juicy fruit-like nuances.

Taste: @ 5-15 PPM. Sweet, waxy, fruity pineapple, pear, apple and citrus notes with a slight green grassy nuance.

Potential Applications: Pineapple, apple, pear, white grape, apricot, whiskey and cognac.

Methyl Valerate

Supplier: Aldrich
FEMA# 2752, CAS# 624-24-8, Artificial, Nature Identical

Natural Occurrence: Apple, coffee, honey, kiwi, melon, papaya, pineapple, strawberry, tea and wine.

Odor: @ 1.0%. Sweet, tutti frutti, juicy bubble gum-like with a sweaty nuance. It lends a sweet estry, syrupy fruity background.

Taste: @ 5-20 PPM. Sweet, ripe, fruity with sweaty dairy and cheesy nuances.

Potential Applications: Tutti frutti, apple, pineapple, strawberry, grape, bubble gum, ripe fruity notes and dairy and cheese nuances.

Heptyl Formate

Supplier: Aldrich
FEMA# 2552, CAS# 2349-13-5, Artificial, Nature Identical

Natural Occurrence: Kumquat.

Odor: @ 1.0%. Green, waxy, floral, herbaceous, with a slight vegetative cucumber and unripe fruity nuance.

Taste: @ 5-10 PPM. Fatty, waxy, oily, slight floral with a vegetative nuance. It has a slight Oenanthate under note.

Potential Applications: Apple, plum, melon, grape, cucumber, wine flavors, coconut, cream nuances.

Undecanal

Supplier: Aldrich
FEMA# 3092, CAS# 112-44-7, Artificial, Nature Identical

Natural Occurrence: Caviar, cooked beef, chicken and lamb, pork, coriander leaf, cucumber, fish, grapefruit and lemon.

Odor: @ 1.0%. Intensely soapy, aldehydic, waxy and slightly effervescent orange citrus-like with a watermelon, pineapple and cilantro background.

Taste: @ 5-20 PPM. Waxy, aldehydic, soapy with a citrus note and slight laundry detergent nuance.

Potential Applications: Citrus orange, herbal nuances, chicken and pork fat, watermelon and tropical fruity nuances.

Pyroligneous Acid

Supplier: Aldrich
FEMA# 2967, CAS# 8030-97-5, Artificial, Nature Identical

Odor: @ 1.0% PG. Smoky, woody/casky, slightly phenolic with a bacon and smoked salmon fattiness.

Taste: @ 5-30 PPM. Sweet hickory smoky, with burnt and charred woody notes, smoked meaty and bacon-like.

Potential Applications: Bacon, ham and other smoked meats, barbecue-sauce notes, smoke flavors, rum, tobacco, cheese nuances.

Propyl Iso Butyrate

Supplier: Aldrich
FEMA# 2936, CAS# 644-49-5, Artificial, Nature Identical

Natural Occurrence: Apple, honey, hop oil and olives.

Odor: @ 1.0%. Sweet, estry, ripe fruity, with tropical and juicy notes. It has melon, berry and red fruit nuances.

Taste: @ 5-15 PPM. Sweet, fruity, with ripe tropical, tutti frutti and citrus melon nuances.

Potential Applications: Orange and tangerine juicy notes, tropical fruits such as mango and guava, pineapple, juicy fruit and tutti frutti nuances, grape, cherry and rum.

p-Methoxy Cinnamaldehyde

Supplier: Aldrich
FEMA# 3567, CAS# 1963-36-6, Artificial, Nature Identical

Natural Occurrence: Baked potato, basil and tarragon.

Odor: @ 0.5%. (Limited solubility in ethyl) Spicy cinnamon, sweet with a rich pleasant cherry candy note, vanilla and slightly smoky.

Taste: @ 3-20 PPM. Cherry flesh, sweet, with a cinnamic dry out, slightly aromatic.

Potential Applications: Cherry, red licorice, fruitpunch, cinnamon, spice blends, vanilla, tobacco nuances, honey and maple.

Quinoline

Supplier: Aldrich
FEMA# 3470, CAS# 91-22-5, Artificial, Nature Identical

Natural Occurrence: Burley tobacco, cocoa,

coffee, cooked rice and dried bonito.
Odor: @ 1.0%. Medicinal, musty, tobacco with a pyridine and leather nuance.
Taste: @ 2-10 PPM. Earthy, musty, nutty, coumarinic with a chemical nuance.
Potential Applications: Fish and seafood in general, shrimp, lobster, cocoa, potato, coffee, hazelnut and cherry pit nuances.

Methyl Nonanoate

Supplier: Aldrich
FEMA# 2724, CAS# 1931-84-6, Artificial, Nature Identical
Natural Occurrence: Apple, butter, grape, hop oil, orris, pineapple, strawberry, tobacco and wine.
Odor: @ 10%. Sweet, fruity, pear-like, waxy, winey, with a slight tropical nuance.
Taste: @ 1-10 PPM. Winey, waxy, green celery and pear, with an unripe fruit nuance.
Potential Applications: Unripe fruit, such as apple, pear, coconut, celery, grape and pineapple. Wine nuances.

Myristic Acid

Supplier: Aldrich
FEMA# 2764, CAS# 544-63-8, Artificial, Nature Identical
Natural Occurrence: Blue cheese, burley tobacco, coconut, cooked beef and chicken, fish, rum, Swiss cheese and wine.
Odor: @ 10%. Faint, waxy and fatty with a hint of pineapple and citrus peel.
Taste: @ 10-50 PPM. Waxy, fatty, soapy, creamy, cheesy, with a good mouth-feel.
Potential Applications: Dairy flavors such as creams, cheeses and butter, fat replacers and savory nuances.

Hexyl-trans-2-Butenoate

Supplier: Aldrich
FEMA# 3354, CAS# 19089-92-0, Artificial, Nature Identical
Natural Occurrence: Cherimoya.
Odor: @ 10%. Sweet, fruity green with apple and pear characters. It has vegetative nuances of celery and radish. A slight tropical note of pineapple.
Taste: @ 10-25 PPM. Green, sweet pear with vegetative nuances of radish, potato and mushroom.
Potential Applications: Pear, apple, pineapple, melon, green strawberry and vegetative nuances for mushroom, radish and potato.

Neryl Iso Valerate

Supplier: Aldrich
FEMA# 2778, CAS# 3915-83-1, Artificial, Not yet reported to occur in nature
Odor: @ 1.0%. Sour sweaty with floral rosy under notes, a bergamot citrus nuance and fruity notes of blueberry, cranberry, apple and grape.
Taste: @ 5-20 PPM. Fruity, rich floral and slightly citrus-like with berry waxy nuances of blueberry fruity notes of apple, grape, peach and apricot.
Potential Applications: Tutti frutti, ligo berry, cranberry, blueberry, mango, grape, tea, grapefruit and guanabana. ■