



Organoleptic Characteristics of Flavor Materials

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

Organoleptic Evaluation Panelists

- Judith Michalski
- Cyndie Lipka, Senior Flavorist, Prinova Flavors
- Gerard Mosciano, Consulting Flavor Chemist
- Robert Pan, Principal Development Scientist, Spicetec Flavors & Seasonings
- Deborah Barber, Senior Scientist, Kraft Foods
- Carl Holmgren, Consulting Flavor Chemist
- Tom Gibson, Creative Director, Silesia Flavors

Vanilla absolute

Source: Berjé

FEMA# 3105, CAS# 8024-06-4, *Vanilla planifolia*, natural

Odor: @ 100%. Sweet, creamy, woody, vanillinlike, brown and resinous, with a whiff of smoke.

Taste: @ 5 ppm. Vanillinlike, beanlike and slightly brown.

Taste: @ 10 ppm. Vanillinlike, creamy, brown and balsamic.

Possible applications: This particular extract of vanilla has a delicate creamy character which will enhance any flavor of its namesake. It will also add depth to custard, crème brûlée, milk, cream and many other sweet dairy flavors. Brown flavors like caramel, chocolate, white chocolate and toffee, as well as marshmallow and cream soda, will benefit from its use.

Nonanoic acid, natural

Source: Sigma-Aldrich

FEMA# 2784, CAS# 112-05-0, natural

Natural occurrence: Ambrette seed, orris, apple, banana, lavender, carambola and cheese.

Odor: @ 100%. Waxy, crayonlike and soapy.

Taste: @ 5 ppm. Waxy, astringent and mouthcoating.

Taste: @ 10 ppm. Waxy, fatty, soapy and mouthcoating.

Possible applications: This fatty acid will contribute to fatty complexes in cheese, milk and cream flavors. It will also be useful in animal fat flavor replacers and perhaps ambrette absolute and orris concrete simulations.

Isoeugenol, natural

Source: Sigma-Aldrich

FEMA# 2468, CAS# 97-54-1, natural

Natural occurrence: Clove oil, nutmeg oil, pimento berry oil, ylang ylang oil and wormwood oil.

Odor: @ 1%. Clovelike, warm, spicy, medicinal and slightly floral.

Taste: @ 5 ppm. Sweet, softly spicy, clovelike and slightly phenolic.

Taste: @ 10 ppm. Sweet, warm, spicy, clovelike and slightly numbing.

Possible applications: The warm, sweet, spicy notes of this material will add much to clove, ginger, black pepper, nutmeg, cinnamon and spice blends for pumpkin, gingerbread and chai. It will enhance flavors for banana, cherry, vanilla and BBQ, as well as salad dressings like Thousand Island and condiments like ketchup and chutney.

Heptyl alcohol, natural

Source: Sigma-Aldrich

FEMA# 2548, CAS# 111-70-6, natural

Natural occurrence: Apple, beer, coconut, mushroom, cooked rice and tobacco.

Odor: @ 1%. Green, waxy, leafy, vegetablelike and melon/cucumberlike.

Taste: @ 2 ppm. Green, earthy, vegetablelike, fatty and waxy.

Taste: @ 5 ppm. Waxy, earthy, green and vegetablelike.

Possible applications: At low levels, this material will add to the green complex in apple, guava, pear, kiwi, melon, celery, strawberry and cucumber flavors. It should also be considered for use in mold-ripened cheese like blue, Gorgonzola, Stilton, Camembert, etc.

2-Methyl-2-pentenoic acid, natural

Source: Sigma-Aldrich

FEMA# 3195, CAS# 3142-72-1, natural

Natural occurrence: Strawberry and Virginia tobacco.

Odor: @ 1%. Sweaty, acidic, sweet, fresh and fruity.

Taste: @ 20 ppm. Acidic, sweaty and fruity.

Taste: @ 50 ppm. Acidic, sweat and fruity with a berry afterglow.

Possible applications: This material will be most appreciated in fruit flavors, like apple and papaya, and especially berries like strawberry, raspberry and blueberry. It could also be considered for aged cheese flavors like Parmesan, Asiago and Manchego.

trans-2-Hexenol, natural

Source: Sigma-Aldrich

FEMA# 2562, CAS# 928-95-0, natural

Natural occurrence: Apple, grape, guava, kiwi, mango, plum, strawberry and tea.

Odor: @ 1%. Green, leafy, fruity and vegetablelike.

Taste: @ 1 ppm. Green, fruity and vegetablelike.

Taste: @ 2 ppm. Green, vegetablelike and fruity.

Possible applications: This green chemical will add fresh, fruity notes to apple, pear, kiwi, guava, green grape, banana, mango, peach, honeydew and strawberry. On the vegetable flavor side, it will add freshness to beans, cucumber, celery, green tea, lettuce, parsley, watercress, etc.

Anethol, natural

Source: Sigma-Aldrich

FEMA# 2086, CAS# 4180-23-8, natural

Natural occurrence: Anise, fennel, basil, caraway, tobacco, dill, licorice, marjoram and tea.

Odor: @ 100%. Sweet, aniselike and slightly brown and slightly cooling.

Taste: @ 1 ppm. Sweet, black licoricelike and slightly creamy.

Taste: @ 2 ppm. Sweet, aniselike, and slightly brown.

Possible applications: It's difficult to be neutral regarding anethol/anise; one either loves it or hates it. But there is no dispute that it's absolutely essential in anise, root beer, wintergreen, ouzo and sambuca flavors, where the anise character plays a starring role. Other flavors where it adds sweetness and lift are in mint, sweet spice blends, cola, cherry, molasses and some brown flavors like raisin and prune. At low levels on its own, it can also act as a sweetness modifier.

Acetophenone, natural

Source: Sigma-Aldrich

FEMA# 2009, CAS# 98-86-2, natural

Natural occurrence: Roast beef, castoreum, cranberry, grape, labdanum, orris, plum, strawberry and tea.

Odor: @ 1%. Harsh, floral, chemical, almond/cherrylike and mothball-like.

Taste: @ 0.5 ppm. Slightly sweet, chemical and cherry/almondlike.

Taste: @ 1 ppm. Tarry, cherrylike, berrylike and slightly medicinal.

Possible applications: This very potent material can add dark berry notes to black cherry, bitter almond, Concord grape, raspberry, blackberry, cranberry and strawberry flavors at discreet levels. It can also be considered for use in licorice, vanilla, cream soda and fruit punch flavors.

2-Heptanone, natural

Source: Sigma-Aldrich

FEMA# 2544, CAS# 110-43-0, natural

Natural occurrence: Butter, cheese, coconut, strawberry, rice, pear and potato chips.

Odor: @ 1%. Waxy, blue cheeselike, earthy and slightly creamy with a hint of banana.

Taste: @ 1 ppm. Waxy, rindy, blue cheeselike and creamy.

Taste: @ 2 ppm. Waxy, savory, blue cheeselike, creamy and rich.

Possible applications: This ketone will fit very nicely into many cheese flavors including blue cheese, aged cheddar, cream cheese, Stilton and other aged and mold-ripened cheeses. At very low levels it will add a creamy depth to dairy flavors like sour cream, cream and cooked butter. Other areas where it will complement character notes are banana, cantaloupe and mushroom.