



Organoleptic Characteristics of Flavor Materials

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2,5-Dimethyl-3-oxo-(2H)-fur-4-yl butyrate, natural (synonyms: 4-butyroxy-2,5-dimethyl-3(2H)furanone; strawberry furanone butyrate)

Source: Natural Advantage

FEMA# 3970, CAS# 114099-96-6, natural

Natural occurrence: Freeze-dried strawberries.

Odor: @ 100%. Sweet, caramellic, burnt, brown, slightly molasseslike and celerylike with a hint of fruit.

Taste: @ 10 ppm. Sweet, brown sugarlike, ripe and fruity.

Taste: @ 20 ppm. Sweet, brown, caramellic, breadly, fruity and jammy.

Possible applications: Brown flavors like molasses, caramel, toffee, brown sugar and sweet spice blends will be enhanced by the use of this chemical. It will add jammy notes to fruits, especially strawberry, raspberry, apricot and apple butter. It also should be considered for sweetness-enhancers.

► **Natural Advantage**; www.natural-advantage.net

Amyris oil, P&N (aka West Indian sandalwood oil)

Source: Bontoux, Inc.

GRAS, CAS# 8015-65-4, natural, *Amyris balsamifera* L.

Odor: @ 100%. Woody, oily, petroleumlike and cedarlike.

Taste: @ 1 ppm. Oily, woody, slightly smoky and resinous.

Taste: @ 2 ppm. Oily, woody, slightly smoky and resinous.

Possible applications: Although this essential oil lacks the refinement (and the cost) of true sandalwood oil, at very low levels, it can broaden the profiles of tropical flavors, like mango, lychee and rambutan as well as add casky notes to whiskey and other barrel-aged liquor.

► **Bontoux**; www.bontoux.com

Propyl butyrate, natural

Source: Vigon International

FEMA# 2934, CAS# 105-66-8, natural

Natural occurrence: Apple, apricot, cheese, kiwifruit, melon, passion fruit, pawpaw and rum.

Odor: @ 100%. Solventlike, sweet, ripe and fruity with a cooling nuance.

Taste: @ 10 ppm. Ripe, fruity, sweet and slightly fermented.

Taste: @ 20 ppm. Sweet, fruity, overripe and fermented.

Possible applications: Although this component is not characteristic of any one fruit, it will add sweet, ripe “up front” notes to most flavors including strawberry, raspberry, banana, peach, apricot, papaya, dragon fruit, kiwi, guava, pomegranate, plum and pineapple. It also can be used as part of the ester complex in fantasy fruit blends, including “bubble gum.”

► **Vigon International**; www.vigoninternational.com

Cocoa extract 1M-534-930C

Source: Berjé

GRAS, CAS# 84649-99-0, natural, *Theobroma cacao* L.

Odor: @ 100%. Sweet, cocoa, dark chocolate and powdery with a hint of dried fruit.

Taste: @ 0.01%. Cocoa, dark chocolate, bitter and slightly powdery.

Possible applications: Chocolate and cocoa flavors of all types will benefit from the use of this very characteristic material, including mocha, mole, brownie, fudge, devil’s food, red velvet, etc.

► **Berjé**; www.berjeinc.com

Coffee arabica CO₂ extract

Source: Berjé

GRAS, CAS# 84650-00-0, natural, *Coffea arabica*

Odor: @ 100%. Roasted coffee, slightly mochalike and ashy.

Taste: @ 50 ppm. Bitter, burnt, ashy and coffee.

Taste: @ 100 ppm. Coffee, cocoalike and ashy.

Possible applications: The dark roasted notes of this extract will not only grace coffee flavors, but also chocolate, mocha, burnt sugar, caramel and perhaps roast beef as well.

► **Berjé**; www.berjeinc.com

Tagetes oil, P&N

Source: Bontoux, Inc.

FEMA# 3040, CAS# 8016-84-0, natural, *Tagetes* species

Odor: @ 100%. Sweet, herbal, fresh, fruity, slightly citruslike and floral.

Taste: @ 1 ppm. Fruity, fresh, slightly orangelike and astringent.

Taste: @ 2 ppm. Fruity, fresh, slightly citruslike, slightly floral and tealike.

Possible applications: The fresh, fruity notes of this oil will blend well in apple, cider, strawberry, mango, orange, herbal and tea flavors. It also can be used at lower levels in white and purple grape and wine flavors.

► **Bontoux**; www.bontoux.com

Rue oil, Moroccan P&N

Source: Bontoux, Inc.

FEMA# 2995, CAS# 8014-29-7, natural, *Ruta graveolens* L.

Odor: @ 100%. Waxy, green, earthy and oily with a raw, nutty undertone.

Taste: @ 1 ppm. Green, slightly creamy, waxy and vegetablelike with a fatty mouthfeel.

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

Possible applications: The varied, complex nature of rue oil makes it an interesting material for use in a number of flavors. Its waxy, creamy notes can be used in dairy flavors like mold-ripened cheeses, and cultured products like sour cream. Its green notes would fit in green pepper, cucumber and other vegetable flavors, whereas its nutty notes could be considered for peanut and other nut flavors.

► **Bontoux**; www.bontoux.com

2-Acetyl-2-thiazoline

Source: Sigma Aldrich

FEMA# 3817, CAS# 22926-41-8

Natural occurrence: Clam, wheat bread, beef, chicken, coffee and corn.

Odor: @ 1%. Toasted, brown, corn chiplike, nutty and popcornlike.

Taste: @ 1 ppm. Toasted, nutty, corn chiplike and brown.

Taste: @ 2 ppm. Toasted, corn chiplike, nutty and brown with a low note of raw legumes.

Possible applications: "Toasted" rather than "roasted" is the defining quality of this lovely chemical. It can successfully add to the profile of corn, corn chip, tortilla and popcorn without adding a burnt note. This same note will also enhance pecan, macadamia, almond, browned butter, caramel, brittle, rice, bread crust flavors and "baked" notes of cookies, pastries and roasted chicken.

► **Sigma Aldrich**; www.sigma-aldrich.com/flavors-fragrances

Cascarilla bark oil

Source: Nobs Naturals

FEMA# 2255, CAS# 8007-06-5, natural, *Croton eluteroides* L.
Lotsy

Odor: @ 100%. Terpeney, oily, spicy and black pepperlike.

Taste: @ 0.5 ppm. Oily, black pepperlike, terpeney and spicy.

Taste: @ 1 ppm. Black pepperlike, terpeney, oil and spicy with mouth burn.

Possible applications: This essential oil will add depth to spice flavors, especially black pepper, cinnamon, ginger, anise, nutmeg and blends thereof. It also will add a twist to mint flavors and those intended for alcoholic beverages.

► **Nobs Naturals**; <http://nobsnaturals.com>

Methanethiol isovalerate, natural (synonym: methyl thioisovalerate)

Source: Natural Advantage

FEMA# 3864, CAS# 23747-45-7, natural

Natural occurrence: Cheese, fish and hops.

Odor: @ 0.1%. Cheesy, overripe/rotten, fruity and slightly cruciferous.

Taste: @ 0.2 ppm. Cheesy, overripe, fruity and vegetablelike.

Taste: @ 0.5 ppm. Cheesy, overripe and fermented vegetablelike.

Possible applications: With all the formidable descriptors listed above, it would seem this material would scare off a flavorist from using it. However, at very low levels, it will lend trueness to: fruit flavors like apple, durian and blueberry; fermented dairy flavors like kefir, yogurt and cheeses like St. Andre and camembert; and fermented vegetables, especially kimchee and sauerkraut.

► **Natural Advantage**; www.natural-advantage.net

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