



# Organoleptic Characteristics of Flavor Materials

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- Christine Daley, President and Owner, Aroma Link LLC
- Alpa Roman, Senior Flavor Chemist, FFS
- Mike Fasano, Director of Vanilla Tech, David Michael & Co.

## Barley, roasted oleoresin, 40% ethanol

Source: Biolandes

GRAS, CAS# 852-64-5, natural, *Hordeum vulgare* L.

Odor: @ 100%. Brown, sweet, chocolate, grainy, roasted, toasted, slightly smoky and slightly fermented.

Taste: @ 50 ppm. Brown, sweet, grainy, astringent and cardboardlike.

Taste: @ 100 ppm. Brown, grainy, beany, malty, dark chocolate-like and cardboardlike.

Possible applications: This interesting material will add character to brown flavors like coffee, chocolate, malt, cereal and bread, especially rye and whole wheat. It can also be used to enhance dark notes in whiskey, brandy and beers like ale and stout.

►Biolandes; [www.biolandes.com](http://www.biolandes.com)

## Carob beans oleoresin (synonym: St. John's bread)

Source: Biolandes

FEMA# 2243, CAS# 84961-45-5, natural, *Ceratonia siliqua*

Odor: @ 100%. Brown, sweet, dried fruitlike and maplelike with a savory nuance.

Taste: @ 50 ppm. Sweet, woody, brown, herbal and slightly bitter.

Taste: @ 10 ppm. Sweet, brown, herbal, woody, slightly bitter and maplelike.

Possible applications: Brown flavors will benefit the most from this product, especially vanilla, maple and chocolate, as well as coffee and beer. Other flavors to consider are raisin, tamarind, bacon and soy.

►Biolandes; [www.biolandes.com](http://www.biolandes.com)

## Dandelion root extract (E.U.) (synonym: swine snout)

Source: Frutarom

FEMA# 2358, CAS# 68990-74-9, natural, *Taraxacum officinale*

Odor: @ 100%. Brown sugarlike, caramellic and slightly savory with a barnyard nuance.

Taste: @ 0.05%. Bitter, brown, woody, earthy, slightly cardboardlike and astringent.

Taste: @ 0.1%. Bitter, brown, herbal, woody and astringent.

Possible applications: With its bitter, brown notes this botanical will be a good addition to chocolate, coffee, tea and beer flavors. It can also provide a base note in sweet brown flavors like molasses, brown sugar, maple, caramel, nut and those intended for cordials. Another good application for this material is in bitter greens flavors like endive and radicchio.

►Frutarom; [www.frutarom.com](http://www.frutarom.com)

## Juniper berry extract (E.U.)

Source: Frutarom

FEMA# 2603, CAS# 84603-69-0, natural, *Juniperus communis*

Odor: @ 100%. Fresh, woody, brown and terpeney with a hint of vegetable.

Taste: @ 100 ppm. Woody, drying and slightly terpeney.

Taste: @ 150 ppm. Woody, astringent, drying, terpeney and slightly tropical.

Possible applications: Flavors for alcoholic beverages like herbal cordials are a good application for this product. Other areas where its terpeney character can add interest are in tropical flavors like mango, passion fruit, grapefruit and guava.

►Frutarom; [www.frutarom.com](http://www.frutarom.com)

## Oil blood orange Italian 5-fold

Source: Citrus and Allied Essences Ltd.

FEMA# 2825, CAS# 8028-48-6, natural, *Citrus sinensis* L.

Odor: @ 1%. Sweet, citrus, orange, peely and juicy with a hint of tangerine.

Taste: @ 5 ppm. Fresh, sweet, juicy, orange and full-bodied.

Taste: @ 10 ppm. Fresh, sweet, juicy, orange/tangerine and full-bodied.

Possible applications: This delicious oil will enhance all orange, kumquat, yuzu and tangerine flavors, as well as their blends. A small amount might also be considered for use in other citrus flavors like lemon and grapefruit to enlarge those profiles.

►Citrus and Allied Essences Ltd.; [www.citrusandallied.com](http://www.citrusandallied.com)

## Hyssop oil

Source: Elixens

FEMA# 2591, CAS# 8006-83-5, natural, *Hyssopus officinales*.

Odor: @ 100%. Cooling, herbal, fresh, green and slightly floral.

Taste: @ 2 ppm. Cooling, herbal, sweet, green and fresh.

Taste: @ 5 ppm. Cooling, herbal, slightly bitter and green.

Possible applications: This essential oil offers a cooling sensation without menthol. Flavors where it will add interest are mints, oral care, herbals, teas and cordials, especially Chartreuse.

►Elixens; [www.elixens.com](http://www.elixens.com)

## 4-Acetyl-2-methyl pyrimidine

Source: Treatt

FEMA# 3654, CAS# 67860-38-2

Odor: @ 1%. Cooked beef.

Taste: @ 2 ppm. Nutty, sweet, brown and cereal-like.

Taste: @ 5 ppm. Nutty, brown, corn chiplike and toasted.

Possible applications: Almost all flavors which have a toasted note in their profile will benefit from this material, including corn chips and popcorn, toasted nuts like cashew, hazelnut, peanut, pecan and almond, as well as bread crust, browned butter, toasted oats, basmati rice and roast meats.

►Treatt; [www.treatt.com](http://www.treatt.com)

## Cyclotene propionate 10%in ethanol

Source: Chemical Sources Association

FEMA# 4511, CAS# 87-55-8

Not yet found in nature.

Odor: @ 10%. Sweet, brown, brown sugarlike, nutty, slightly rummy.

Taste: @ 10 ppm. Sweet, brown and slightly bitter.

Taste: @ 20 ppm. Sweet, slightly bitter, astringent, brown, maple-like and nutty.

Possible applications: The sweet, brown nature of this chemical will fit very nicely into many brown flavor types, especially maple, brown sugar, molasses, rum and vanilla. Its astringent, nutty character makes this ideal for walnut flavors and its combinations. Dried fruit flavors like fig, date and tamarind should also be considered for its use.

►Chemical Sources Association; [www.chemicalsources.org](http://www.chemicalsources.org)

## γ-Valerolactone, natural

Source: SAFC

FEMA# 3103, CAS# 108-29-2

Natural occurrence: Barley, beef, beer, Swiss cheese, coffee, cocoa, mango, milk, mushroom, peach, pork, tea, soy and tomato.

Odor: @ 1%. Sweet, coumarinic, creamy, nutty, coconutlike and cereal-like.

Taste: @ 8 ppm. Sweet, nutty, dry and creamy.

Taste: @ 15 ppm. Sweet, creamy, coconutlike and cereal-like.

Possible applications: The sweet, creamy notes of this lactone will enhance coconut, vanilla, caramel, toffee, milk chocolate, and the sweeter dairy flavors like cajeta, milk and whipped cream. Dried fruits flavors like date and fig, and nut flavors like almond and peanut butter are also good destinations for this material.

►SAFC; [www.sigmaaldrich.com/safc](http://www.sigmaaldrich.com/safc)

## trans-4-Decen-1-al

Source: Bedoukian

FEMA# 3264, CAS# 65405-70-1

Natural occurrence: Beef, chicken, fried potato, clam, cardamom, soy and yuzu.

Odor: @ 1%. Green, citruslike, fatty, fresh and slightly brothy.

Taste: @ 0.5 ppm. Citruslike, green, fatty and brothy.

Taste: @ 1 ppm. Green, citruslike, slightly metallic, herbal and slightly brothy.

Possible applications: The fatty, citrus profile of this material will emphasize rind and folded notes in orange, mandarin, kumquat, yuzu, grapefruit and blends thereof. This product will also enlarge the savory complex in meat flavors, particularly chicken, pork and beef, as well as their fats.

►Bedoukian; [www.bedoukian.com](http://www.bedoukian.com)

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