



# Organoleptic Characteristics of Flavor Materials

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## Organoleptic Evaluation Panel

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- Tom Gibson, Creative Director, Silesia Flavors
- Carl Holmgren, Consulting Flavor Chemist
- Cyndie Lipka, Senior Flavorist, Bell Flavors & Fragrances
- Gerard Mosciano, Consulting Flavor Chemist
- Robert Pan, Senior Flavorist, Bell Flavors & Fragrances
- Deborah Barber, Senior Scientist, Kraft Foods
- Susie Sadural, Consulting Flavor Chemist

### 2,4,6-Trimethyldihydro-4H-1,3,5-dithiazine (synonym: thialdine)

Source: Treatt

FEMA# 4018, CAS# 638-17-5

Natural occurrence: Beef, fried chicken, peanut butter, clam, shrimp and squid.

Odor: @ 1%. Pungent, sulfurous, cruciferous, onion/garliclike, slightly metallic, meaty and slightly fishy with hint of nut.

Taste: @ 2 ppm. Radishlike, meaty and slightly earthy.

Taste: @ 5 ppm. Radishlike, sulfurous, meaty, earthy and slightly swampy.

Possible applications: Savory flavors will most benefit from this interesting compound. It will reinforce light meat notes in chicken, pork and fish flavors, as well as their broths. Its pungent, sulfurous notes will add depth to cruciferous vegetables, especially broccoli, Brussels sprouts, radish, wasabi, watercress, cauliflower and cabbage.

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

### 3-(Methylthio)butanal, natural, ABT# 1589 (synonym: potato butyraldehyde)

Source: Advanced Biotech

FEMA# 3374, CAS# 16630-52-7

Natural occurrence: Krill and french-fried potatoes.

Odor: @ 1%. Metallic, fishy, savory, potatolike, brothy and cooked.

Taste: @ 0.5 ppm. Metallic, fishy, potatolike and cruciferous.

Taste: @ 1 ppm. Metallic, fishy, savory, cooked and potatolike.

Possible applications: This homologue of methional will enhance many of the same flavors, namely potato, especially chips and french fries, cooked tomato, cooked cabbage and sauerkraut. It should also be considered for use in flavors that have a metallic note as part of their profiles, like anchovy, canned vegetables and fruits, and garlic.

►Advanced Biotech; [www.adv-bio.com](http://www.adv-bio.com)

### Chocotella Super #2 Natural, ABT# 1579

Source: Advanced Biotech

FEMA# 3155, CAS# 15707-23-0

Natural occurrence: Barley, beef, cocoa, coffee, hazelnut, peanut and shrimp.

Odor: @ 100%. Nutty, coallike, powdery and slightly roasted.

Taste: @ 40 ppm. Nutty, musty, brown and slightly coallike.

Taste: @ 60 ppm. Nutty, coallike and slightly bitter.

Possible applications: The nutty, coallike aspect of this proprietary reaction product is due to the presence of 2-ethyl-3-methylpyrazine. It will be a welcome addition to natural nut flavors like hazelnut, walnut, pecan, peanut, Brazil and macadamia. At higher levels it will enhance cocoa, chocolate, coffee and meat flavors. This product should also be considered for use in grain flavors like toasted oat, barley and wheat.

►Advanced Biotech; [www.adv-bio.com](http://www.adv-bio.com)

### 2-Methyltetrahydrofuran-3-thiol acetate

Source: Treatt

FEMA# 4686, CAS# 252736-41-7

Not yet found in nature.

Odor: @ 1%. Meaty, onionlike, sulfurous, beefy and savory.

Taste: @ 1 ppm. Onionlike, roast beeflike, savory and rich.

Taste: @ 2 ppm. Meaty, roast beeflike, brothy, onionlike and rich.

Possible applications: This savory component, with its meaty, oniony character, will be a welcome addition to roast beef, pork, liver, gravy and broth-type flavors. At lower levels, it can be used to enhance the smoky, fatty notes of other meat flavors like bacon, ham and sausage. Other applications to consider are egg and coffee flavors.

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

### 3-(2-Methyl-3-furylthio)-2-butanone

Source: Treatt

FEMA# 4056, CAS# 61295-44-1

Not yet found in nature.

*Odor:* @ 0.1%. Meaty, savory, slightly chicken souplike and slightly eggy.

*Taste:* @ 1 ppm. Sulfurous, meaty, slightly cruciferous with a slight dairylike undertone.

*Taste:* @ 2 ppm. Savory, metallic, fatty, meaty and slightly cruciferous.

*Possible applications:* Savory applications will benefit the most from this component. Its light meat notes will enhance chicken, chicken broth and pork flavors, as well as those flavors intended for gravies, soups and stews. At levels below 1 ppm, it may add depth to dairy flavors, especially those that are cultured like cream cheese, sour cream and yogurt.

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

### Maple furanone, natural, 10% in triacetin (synonym: 5-ethyl-3-hydroxy-4-methyl-2(5H)-furanone)

Source: Advanced Biotech

FEMA# 3153, CAS# 698-10-2

*Natural occurrence:* Blackberry, blueberry, coffee, raspberry, soy sauce.

*Odor:* @ 0.1%. Brown, sweet, maplelike, HVP-like, with an undertone of celery.

*Taste:* @ 0.5 ppm. Sweet, brown, celerylike and maplelike.

*Taste:* @ 1 ppm. Sweet, brown, celerylike and maplelike.

*Possible applications:* This very potent chemical can perform well in sweet and savory flavor types. On the sweet side, it will add maple notes to its namesake and sweet brown notes to botanical flavors like fenugreek and lovage, brown sugar, molasses, caramel, coffee and brown spice blends like gingerbread and pumpkin. Savory flavors that will benefit from its use are soy and tamari sauce, barbeque, HVP, roasted meat, stew and gravy.

► **Advanced Biotech**; [www.adv-bio.com](http://www.adv-bio.com)

### Mandarin juice aroma extract (flavor grade), Ref: 21337

Source: Global Essence

CAS# 84929-38-4; in ethanol and propylene glycol

Natural

*Odor:* @ 100%. Sweet, fresh, mandarin/tangerinelike, green, candylite, citrus and musty with a slight grape undertone.

*Taste:* @ 0.02%. Citruslike, mandarin/tangerine, peely, waxy, slightly green, fresh and juicy.

*Taste:* @ 0.05%. Peely, citruslike, mandarin/tangerine, fresh, slightly juicy and pulpy.

*Possible applications:* This product will fit well in all citrus flavors, especially in tangerine, mandarin, orange and kumquat. Other flavors where it will add interest and depth are grape, blueberry, blackberry and fruit punch.

► **Global Essence**; [www.globalessence.com](http://www.globalessence.com)

### Methyl isobutyrate, natural, ABT# 1582

Source: Advanced Biotech

FEMA# 2694, CAS# 547-63-7

*Natural occurrence:* Apple, banana, blueberry, dill, grape, melon, papaya, fried potato, starfruit.

*Odor:* @ 100%. Ethereal, solventlike, estery, fruity, sweet and ripe.

*Taste:* @ 20 ppm. Fruity, estery, sweet and ripe.

*Taste:* @ 40 ppm. Solventlike, fruity, estery, overripe and slightly creamy.

*Possible applications:* Depending on the beholder, this chameleon-like ester can fit into almost any non-citrus fruit type flavor, improving the ripe, fruity impact of apple, pear, strawberry, pineapple, fresh papaya, kiwi, grape, raspberry, peach, apricot, cherry, banana and blends thereof. It will also add fruity notes characteristic of aged Italian cheeses like Parmesan, Asiago and Grana Padano.

► **Advanced Biotech**; [www.adv-bio.com](http://www.adv-bio.com)

### Szechuan pepper OR 48-002

Source: Kalsec

FEMA# 4754

Natural

*Odor:* @ 1%. Terpenic, green, black peppery, citruslike, floral and woody.

*Taste:* @ 5 ppm. Black peppery, green, woody and tingly.

*Taste:* @ 10 ppm. Black peppery, lemonlike, terpeny, green and tingly.

*Possible applications:* This is not the spice rack variety of pepper. Its interesting citrus/lemon note, plus the trigeminal 'tingle,' make it a unique addition to black pepper, nutmeg, sweet and savory spice blends, citrus and floral-type flavors like lavender. Adding it to flavors intended for alcoholic applications should lend a unique tingle to the overall experience.

► **Kalsec**; [www.kalsec.com](http://www.kalsec.com)

### Szechuan pepper OR, deodorized 48-004

Source: Kalsec

FEMA# 4754

Natural

*Odor:* @ 1%. Citrus, woody, slightly floral and slightly lemon peel-like.

*Taste:* @ 5 ppm. Slightly oily and tingly.

*Taste:* @ 10 ppm. Citruslike, tingly and mouth-numbing.

*Possible applications:* The deodorized version of this material is decidedly more trigeminal than flavorful and can be used as a flavor adjunct to produce interesting mouth numbing and tingling effects in a wide variety of applications like beverages, frozen concoctions, salad dressings, sauces, etc.

► **Kalsec**; [www.kalsec.com](http://www.kalsec.com)

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