

Organoleptic Characteristics of Flavor Materials



By Gerard Mosciano

2-Acetyl-3-Methyl Pyrazine

Source: Aldrich Chemical Co. and Oxford Chemical
FEMA# 3964, CAS# 23787-80-6, Nature identical

Natural Occurrence: French fried potatoes, fried pork, cocoa, coffee, clams and scallops.

Odor: @ 1.0 percent. Sweet musty, earthy, nutty peanut and hazelnut-like, popcorn and corn chip, cocoa with a roasted caramellic note and a slightly green vegetative nuance.

Taste: @ from 2.5-10 PPM. Musty, creamy, cocoa, baked potato and corn chip; slightly roasted nut meat with an earthy musty nuance.

Possible Applications: Roasted potato skin, baked potato, bell peppers, cocoa, almond, macadamia, hazelnut and peanut, corn chip, popcorn, basmati rice, coffee, shell-fish nuances.

Cyclotene: Methyl Cyclopentenolone or Maple Lactone

Source: Alfrebro

FEMA# 2799, CAS# 80-71-7, Natural

Natural Occurrence: Almond, soy, sukiyaki, licorice, dried bonito, chicory, roasted onion, wheaten bread, cocoa, coffee, roasted barley, filbert, peanut and fenugreek.

Odor: @ 1 percent. Caramellic, burnt sugar, sweet maple, lovage, brown sugar, bread crust, butterscotch, molasses with a roasted nutty nuance.

Taste: @ 10 PPM. Burnt sugar, caramellic, maple-like, malty, bready.

Possible Applications: Maple, caramel, bread, butterscotch, cocoa, coffee, raisin, strawberry, hazelnut, peanut, licorice, brown sugar, cotton candy.

Linalool Oxide (cis- and trans- Isomers)

Source: Givaudan

FEMA# 3746, CAS# 1365-19-1, Nature identical

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Natural Occurrence: Apple, bitter orange peel oil, tangerine oil, black currant, butter, raspberry, beer, cognac, white wine, tea, pear brandy, coriander seed, licorice.

Odor: @ 1.0 percent. Cooling, woody citrus-like with camphoreous and lime-like nuances.

Taste: @ 10 PPM. Woody, floral, citrus melon.

Possible Applications: Nutmeg, melon, papaya and other tropical notes, blueberry, tea, citrus and mint top notes.

3-Methoxy Benzoic Acid, Meta Anisic Acid

Source: Aldrich Chemical Co.

FEMA# 3944, CAS# 586-38-9, Nature identical

Natural Occurrence: Cheddar cheese.

Odor: @ 1.0 percent. Little or none evident.

Taste: @ 40 PPM. Little or none evident.

Possible Applications: Flavor applications — none evident.

4-Methoxy Benzoic Acid, Para Anisic Acid

Source: Aldrich Chemical Co.

FEMA# 3945, CAS# 100-09-4, Nature identical

Natural Occurrence: Guava and feyofa fruit, anise, cheddar cheese, cocoa, cherimoya, bourbon and Tahitian vanilla.

Odor: @ 1.0 percent. Vanilla, creamy sweet and powdery, spicy heliotropine with licorice-like nuances.

Taste: @ 10 PPM. Creamy vanilla, sweet, powdery with heliotropine and cherry-fruity nuances.

Possible Applications: Cocoa, creamy vanilla notes, licorice, cherry and tropical fruits.

Bergamot Oil, Bergaptene Free

Source: Calchavet

FEMA# 2153, CAS# 68648-33-9, Natural

Natural Components: The oil has approximately 300 ingredients. Linalyl acetate is the largest component, representing 30 percent to 60 percent depending upon its source; linalool is the second most abundant at 11 percent to 22 percent.

Odor: @ 100 percent. Sweet, lemon and orange-like citrus, fresh and juicy, with a slight terpy and waxy nuance.

Taste: @ 10 PPM. Lemon-like, citrus, waxy, sweet fresh and juicy with a terpy and floral nuance.

Possible Applications: Lemon, citrus enhancers, grapefruit, toiletries.

1-Amino-2-Propanol, Iso Propyl Amine

Source: Aldrich Chemical Co.

FEMA# 3965, CAS# 75-31-0, Nature identical

Natural Occurrence: Cooked cabbage; lettuce; wheat bread; cheeses such as cheddar, Swiss, Camembert, provolone and others; caviar; boiled beef; cured pork; sherry; red and white wines.

Odor: @ 5 percent. Fishy ammoniacal, sea food and canned fish with an oily nuance.

Taste: @ 10-100 PPM. Ammoniacal, fishy, slightly salty, clam, seafood and shellfish in general.

Possible Applications: Fish in general, tuna, shrimp, shellfish such as clams and mussels, surface-ripened cheeses, salt replacers, vegetative nuances.

3-Decanone, Ethyl Heptyl Ketone

Source: Aldrich Chemical Co.

FEMA# 3966, CAS# 938-80-3, Nature identical

Natural Occurrence: Banana, lemon peel, *Mentha* oils, heated butter, mushrooms, cooked shrimp.

Odor: @ 1.0 percent. Waxy, oily, penetrating ketonic, creamy, chicken fat and tallow-like with slightly fruity and green-leafy nuances.

Taste: @ 1 to 10 PPM. Waxy, fatty, citrus, green melon rind.

Possible Applications: Tallow, chicken fat, popcorn, banana, pineapple, apple, tagette, citrus orange and grapefruit, blueberry, melon, cucumber, pear and tomato.

Ethanethioic Acid, S-(2-Methyl-3-Furanyl) Ester, 3-(Acetylthio)-2-Methylfuran, 2-Methylfuran-3-Thiol Acetate

Source: Oxford Chemical

FEMA# 3973

Odor: @ 1.0 percent. Savory, sulfurous, cooked meaty, burnt, bready with minty and herbal-tropical nuances.

Taste: @ 5 PPM. Sulfurous, bloody savory meaty, amine-like, with an astringent minty, herbal and tropical nuance.

Possible Applications: Durian fruit, passion fruit, bloody beef, savory nuances, sulfurous nuances.

cis-3-Hexenyl trans-2-Butenoate, cis-3-Hexenyl Crotonate

Source: Aldrich Chemical Co.

FEMA# 3982, CAS# 95405-61-1, Nature identical

Natural Occurrence: Fresh mango.

Odor: @ 1.0 percent. Impacting leafy green, fruity apple, pineapple and pear with a fresh vegetative grassy green waxy nuance.

Taste: @ from 1 to 5 PPM. Grassy, green, waxy fruity, vegetative tomato, with a green earthy chicken nuance.

Possible Applications: Pear, strawberry, apple, peas, kiwi, banana, pineapple, guava, gooseberry, mushroom, melon, dairy nuances.

2-Hydroxy Benzoic Acid, Salicylic Acid

Source: Aldrich Chemical Co.

FEMA# 3985, CAS# 69-72-7, Nature identical

Natural Occurrence: Sweet and sour cherry, red and white wines, papaya, tomato, cheddar cheese, beer, grape brandy, rum, tea and raw peanuts.

Odor: @ 5 percent. Slightly spicy and aromatic, musty, wintergreen and cinnamate-like.

Taste: @ 100 to 150 PPM. Sweet, slightly tart sour, with a tingling trigeminal effect, musty, slightly vanilla-like.

Possible Applications: Vanilla.

4-Hydroxy-3-Methoxy Benzoic Acid, Vanillic Acid

Source: Aldrich Chemical Co.

FEMA# 3988, Nature identical

Natural Occurrence: Guava fruit, beer, grape brandy, rum, whiskey, sherry, red and white wines, scotch, Irish and Canadian whiskeys.

Odor: @ 5 percent. Weak vanilla, creamy, dairy-like with a slight woody balsamic raisin-like nuance.

Taste: @100 PPM. Weak, sweet resinous vanilla, with a smooth sweetness and body and a slight chocolate-like spicy nuance.

Possible Applications: Caramel, butterscotch, dulce de leche, condensed milk notes, vanilla, macadamia nut, chocolate, coumarin substitutes, cream flavors, baked goods, dried fruits such as raisin and prune, cookie dough, whiskey and cognac toners.

2-Methyl-1-Butanol, Active Amyl Alcohol

Source: Aldrich Chemical Co.

FEMA #3998, Nature identical

Natural Occurrence: Fresh and cooked apple, apple juice, apricot, banana, orange juice, black currant, cranberry and wines.

Odor: @1.0 percent. Penetrating alcoholic, sweet fusel whiskey-like with a brown fruity banana background.

Taste: @ 30 PPM. Sweet fusel alcoholic, fruity banana and apple-like, whiskey and rummy with a creamy nuance.

Possible Applications: Banana, whiskey, rum and cognac, fusel notes, ripe apple, vanilla, chocolate, yeast and fermented flavors.

Methyl (Methylthio)-Acetate

Source: Aldrich Chemical Co.

FEMA# 4003

Odor: @ 1.0 percent. Impacting sulfurous, sweet vegetative, green ripe tomato, cabbage and onion, surface-ripened cheese with a savory meaty brothy note and a rummy ethereal nuance.

Taste: @ 5.0 PPM. Sulfurous, vegetative tomato, cabbage and horseradish, metallic with a rich creamy dairy nuance.

Possible Applications: Cheese, tomato, potato, horseradish, other vegetative nuances for bok choy, corn, cabbage, asparagus, fruit flavors such as durnian, savory and sea food nuances.

Paraldehyde, 2,4,6-Trimethyl-1,3,5-Trioxane

Source: Aldrich Chemical Co.

FEMA# 4010, CAS# 123-639-8, Nature identical

Natural Occurrence: Roasted onion, baked potato and cognac.

Odor: @ 1.0 percent. Sweet solvent, ethyl formate-like with a pyrazine-like undertone, musty and slightly powdery, with a jamy nuance.

Taste: @ 30 PPM. Musty, sweet, weakly fruity and slightly caramellic with a resinous mouthfeel.

Possible Applications: Nut meat nuances, apple, banana and other fruity notes, impact notes for alcoholic beverages and whiskey toners, vanilla, caramel and hazelnut flavors.

Phenethyl Iso Thiocyanate, Phenylethyl Mustard Oil

Source: Aldrich Chemical Co.

FEMA# 4014, CAS# 2257-09-2, Nature identical

Natural Occurrence: Cabbage, mustard, mushrooms, horseradish, cauliflower, radish and wasabi.

Odor: @1.0 percent. Green vegetative, slightly metallic, pungent horseradish, raw cabbage and cauliflower, herbal, musty with a chocolate nuance.

Taste: @ 3 PPM. Horseradish and wabasi-like, biting, rooty, radish and cabbage with a slight cooling aftertaste.

Possible Applications: Horseradish, wabasi, peppermint, vegetative nuances for potato, celery, cabbage and carrot, radish, honey mustard salad dressings.

Pyrazine

Source: Aldrich Chemical Co.

FEMA# 4015, CAS# 290-37-9, Nature identical

Natural Occurrence: Papaya, asparagus, French fried potatoes, Parmesan cheese, boiled eggs, fried chicken, grilled beef and pork livers.

Odor: @ 1.0 percent. Musty, raw nutty, brown, weak green oily starter distillate-like.

Taste: @ 10 to 20 PPM. Musty, cocoa shell and nut-skin-like, corn taco, creamy milky with a malty nuance.

Possible Applications: Coffee, cocoa, malted milk, dairy nuances, peanut butter, avocado.

6-Undecanone, Diamyl Ketone

Source: Aldrich Chemical Co.

FEMA # 4022, Nature identical

Natural Occurrence: None found.

Odor: @1.0 percent. Waxy, fatty ketonic, earthy mushroom and vegetative; it has a creamy depth, with a sharp cheese-like background. It is rue oil-like and orris waxy with a slight green nuance.

Taste: @ 10 PPM. Mushroom, waxy, milky with a creamy ketonic note; it has tobacco and soapy nuances.

Possible Applications: Mushroom, dairy notes for cream and blue cheese flavors, tobacco, pea and other vegetative notes, citrus orange, milk and banana.

cis-3-Hexenol, Leaf Alcohol Natural

Source: Givaudan

FEMA# 2563, CAS# 928-96-1, Nature identical

Natural Occurrence: Apple, burley tobacco, cucumber,

kiwi, melon, pear, raspberry, strawberry, apricot, banana, cherry, citrus fruits, black currant, guava, leek and olive oil.

Odor: @ 1.0 percent. Fresh green vegetative and fresh cut grass, sweet unripe apple, with melon and cognac notes.

Taste: @ 10 PPM. Green apple, melon, pear, waxy with tea-like notes.

Possible Applications: Fresh skin notes for apple and pear, strawberry, melon, mint and tea, kiwi, citrus, raspberry, banana and general green top notes.

Vetiver Oil

Source: A Woman of Uncommon Scents

CAS# 8016-96-4, Natural

Odor: @ 0.1 percent. Floral, woody aromatic, balsamic, herbal, spicy, earthy with a tea-like and ionone nuance.

Taste: @ 10 PPM. Woody aromatic and perfume-like, with ionone and anthranilate notes, and minor earthy, spicy and herbal nuances.

Possible Applications: Dry seedy notes for raspberry, notes in apple, grape, peach, vanilla, wine, vegetative and Earl Grey tea as well as other herbal nuances. ■