Flavors & Fragrances

US Industry Study with Forecasts for 2014 & 2019

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# Table of Contents

## EXECUTIVE SUMMARY

## MARKET ENVIRONMENT
- General ........................................ 4
- Macroeconomic Outlook ..................... 5
- Demographic Trends ............................ 8
- Personal Consumption Expenditures .... 11
- Historical Market Trends .................... 13
- Pricing Patterns ................................ 16
- Environmental & Regulatory Issues ...... 19
  - Flavors ........................................ 20
  - Fragrances .................................... 23
- International Activity ......................... 25
- Foreign Trade .................................. 27
- Imports .......................................... 28
- Exports .......................................... 29

## MARKETS
- General ........................................ 31
- Food ............................................ 35
  - Industry Overview ............................ 35
  - Flavor Demand ................................. 37
    - Processed Food ............................... 42
    - Dairy Products ............................... 45
    - Bakery Products ............................. 48
    - Candy & Confectioneries .................. 50
  - Other Food ................................... 52
- Cosmetics & Toiletries ....................... 56
  - Industry Overview ............................ 56
  - Flavor & Fragrance Demand ............... 59
    - Perfumes & Colognes ...................... 64
    - Skin Care Products ........................ 67
    - Soaps & Body Washes ...................... 70
    - Other Cosmetics & Toiletries ............ 72
- Cleaning Products ............................. 75
  - Industry Overview ............................ 76
  - Fragrance Demand ............................ 78
    - Laundry Detergents ......................... 80
    - Polishes & Sanitation Goods .............. 84
    - Dishwashing Detergents & Other Cleaners 87
  - Environmental Fragrance Goods .......... 90
    - Industry Overview .......................... 90
    - Fragrance Demand ........................... 94
      - Air Fresheners & Deodorizers .......... 96
      - Candles .................................... 99
    - Potpourri & Other Environmental Fragrance Goods 101
    - Beverages .................................. 102
    - Industry Overview .......................... 103
    - Flavor Demand ................................ 105
      - Carbonated Soft Drinks ................. 108
    - Other Beverages ............................. 110
    - Other Markets ................................ 114

## PRODUCTS
- General ........................................ 118
- Flavor Blends ................................ 120
  - Fruity ........................................ 125
  - Savory ........................................ 127
  - Cheese & Other Dairy ....................... 128
  - Meat .......................................... 129
  - Other Flavor Blends ........................ 131
- Fragrance Blends .............................. 133
  - Product Characteristics .................... 135
  - New Applications ............................ 136
- Essential Oils & Natural Extracts .......... 138
  - Citrus Oils .................................. 141
    - Lemon Oil ................................. 143
    - Orange Oil ................................ 146
    - Other Citrus Oils ......................... 148
  - Mint Oils ..................................... 150
  - Peppermint Oil .............................. 152
  - Spearmint & Other Mint Oils ............. 155
  - Other Essential Oils & Natural Extracts 157
  - Aroma Chemicals ............................. 160
    - Demand by Class ........................... 162
      - Synthetic ................................ 163
      - Natural .................................... 164
    - Demand by Type ............................ 166
      - Terpenoids ................................ 166
      - Benzenoids ................................ 168
      - Musks & Other Aroma Chemicals .......... 169

## INDUSTRY STRUCTURE
- General ........................................ 170
- Market Share .................................. 174
- Mergers & Acquisitions .................... 180
- Competitive Strategies ..................... 183
- Product Differentiation ..................... 184
- Market Segmentation ....................... 185
- Cooperative Agreements ................. 186
- Research & Development ................. 189
- Natural Flavors & Fragrances ............ 191
- Biotechnology .............................. 192
- Delivery Systems ........................... 194
- Production Methods ........................ 197
- Marketing & Distribution ................ 198

## COMPANY PROFILES
- Agilex Flavors & Fragrances ............. 201
- Aromatech France ............................ 202
- BASF SE ...................................... 204
- Bedoukian Research ......................... 206
- Bell Flavors & Fragrances ................. 207
- Belmay Incorporated ......................... 209
- Cargill Incorporated ......................... 210
- Comax Flavors ................................ 211
- ConAgra Foods ................................ 213
- Firmenich SA ................................ 214
- Flavorchem Corporation ..................... 217
- Givaudan SA ................................ 218
- Hasegawa (T.) Company ...................... 223
- ICC Industries ................................ 225
- International Flavors & Fragrances ...... 227
- Kao Corporation .............................. 231
- Kerry Group .................................... 233
- LyondellBasell Industries ................. 235
- Mane (V.) Fils ................................ 236
- McCormick & Company ...................... 237
- Michael (David) & Company ............... 239
- Naturex SA ................................... 241
- Polarome International ..................... 242
- Renessenz LLC ................................ 243
- Rhodia SA .................................... 244
- Robertet SA .................................... 246
- Royal DSM .................................... 248
Table of Contents

COMPANY PROFILES
(continued from previous page)
Sensient Technologies..................250
Symrise AG.............................253
Takasago International...............256
Todd (AM) Company ..................257
Treatt (RC) plc..........................258
Ungerer & Company ....................260
Vigon International ....................261
WILD (Rudolf) GmbH ....................263
Other Firms Mentioned in Study......266

List of Tables/Charts

EXECUTIVE SUMMARY
1 Summary Table........................3

MARKET ENVIRONMENT
1 Macroeconomic Indicators..........8
2 Population & Households...........11
3 Personal Consumption
   Expenditures ........................13
4 Flavor & Fragrance Market,
   1999-2009 ...........................15
Cht Flavor & Fragrance
   Market, 1999-2009 .................16
5 Flavor & Fragrance Pricing ..19
Cht World Flavor & Fragrance
   Demand, 2009 .......................27
6 Flavor & Fragrance
   Supply & Demand ...................28
Cht US Flavor & Fragrance Imports
   by Source, 2009 ....................29
Cht US Flavor & Fragrance Exports
   by Destination, 2009 ..............30

MARKETS
1 Flavor & Fragrance Demand
   by Market ..........................34
Cht Flavor & Fragrance Demand
   by Market, 2009 ...................34
2 Food Shipments .....................37
3 Food: Flavor Demand ..............41
Cht Food: Flavor Demand, 2009 ....42
4 Processed Food: Flavor Demand ..45
5 Dairy Products: Flavor Demand ..48
6 Bakery Products: Flavor Demand ..50
7 Candy & Confectioneries:
   Flavor Demand .....................52
8 Other Food: Flavor Demand ......55
9 Cosmetic & Toiletry Shipments ...58
10 Cosmetics & Toiletries: Flavor
    & Fragrance Demand ..............63
Cht Cosmetics & Toiletries: Flavor
    & Fragrance Demand, 2009 ......64
11 Perfumes & Colognes:
    Fragrance Demand ................67
12 Skin Care Products:
    Fragrance Demand ................70
13 Soaps & Body Washes:
    Fragrance Demand ................72
14 Other Cosmetics & Toiletries: Flavor
    & Fragrance Demand ..............75
15 Cleaning Product Shipments ....78
16 Cleaning Products:
    Fragrance Demand ................80
17 Laundry Detergents:
    Fragrance Demand ................84
18 Polishes & Sanitation Goods:
    Fragrance Demand ................87
19 Dishwashing Detergents & Other
    Cleaners: Fragrance Demand ....90
20 Environmental Fragrance
    Goods Indicators ..................94
21 Environmental Fragrance Goods:
    Fragrance Demand ................96
22 Air Fresheners & Deodorizers:
    Fragrance Demand ................98
23 Candles: Fragrance Demand ......101
24 Potpourri & Other Environmental
    Fragrance Goods:
    Fragrance Demand ................102
25 Beverage Shipments ...............105
26 Beverages: Flavor Demand .......108
27 Carbonated Soft Drinks:
    Flavor Demand ...................110
28 Other Beverages: Flavor Demand 114
29 Other Markets: Flavor &
    Fragrance Demand ..............117

PRODUCTS
1 Flavor & Fragrance Demand
   by Product ........................119
Cht Flavor & Fragrance Demand
   by Product, 2009 .................120
2 Flavor Blend Demand ..............124
Cht Flavor Blend Demand
   by Type, 2009 ....................125
3 Fragrance Blend Demand ..........135
4 Essential Oil & Natural
   Extract Demand ....................140
5 Citrus Oil Demand .................143
6 Lemon Oil Demand .................145
7 Orange Oil Demand ...............148
8 Other Citrus Oil Demand ..........150
9 Mint Oil Demand ...................152
10 Peppermint Oil Demand ..........154
11 Spearmint & Other
    Mint Oil Demand ..................157
12 Other Essential Oil & Natural
    Extract Demand ...................159
13 Aroma Chemical Demand ..........162
14 Synthetic Aroma
    Chemical Demand ................164
15 Natural Aroma Chemical Demand 166

INDUSTRY STRUCTURE
1 US Flavor & Fragrance Sales
   by Company, 2009 ...............172
Cht US Flavor & Fragrance Market Share
   by Company, 2009 ...............175
2 Selected Acquisitions
   & Divestitures ....................183
3 Selected Cooperative
   Agreements .......................187
4 R&D Spending Patterns: Selected
   Flavor & Fragrance Suppliers...191
Advances will be fueled by consumer interest in more complex, exotic and authentic flavors and fragrances, as well as their increasing use as marketing tools and product differentiators.

US demand to rise 3% annually through 2014

The US market for flavors and fragrances is forecast to rise 3.0 percent annually to $5.5 billion in 2014. Demand will benefit from an improving economic outlook, as well as continued expansion in the food, beverage, and cosmetic and toiletry sectors. Advances will be fueled by consumer interest in more complex, exotic and authentic flavors and fragrances, as well as the increasing utilization of these products as marketing tools and product differentiators.

Food market to benefit from health concerns

Gains in the flavor segment will be triggered by heightened health concerns among the US population. New dietary guidelines, The National Salt Reduction Initiative, and Wal-Mart’s recently announced plan to cut down on sodium and sugar in thousands of packaged food products, will further drive the trend toward healthier eating options. The widespread reformulation of food products will promote demand for flavors, as processors seek innovative ways to improve the taste of foods with reduced sodium, sugar and fat content.

Skin care, environmental products to grow fastest

In the cosmetic and toiletry market, skin care products will provide strong advances, propelled by demand for natural products and the incorporation of beneficial ingredients into skin care formulations. As the large baby boomer population approaches age 65, gains will be fueled by greater demand for high-value skin care products designed specifically for mature skin. Such cosmetics and toiletries often contain malodorous active ingredients that require masking with high fragrance loadings. Demand will also benefit from the continued introduction of lotions and other skin care products that are marketed primarily on the basis of scent, rather than functionality. However, overall advances will be limited by competition from fragrance-free products.

Environmental fragrance goods represent a small, but growing market. Following the recession that began in late 2007, consumers are spending more time at home and are increasingly interested in enhancing their living spaces through the use of air care products, particularly those that complement their home’s décor with attractive designs. However, while consumers are increasingly willing to experiment with new products and scents, fragrance demand will be negatively impacted by the fragrance bans in schools, churches and various workplaces. Furthermore, this market will face challenges as concerns rise about the presence of potentially harmful chemicals, such as phthalates, in certain air care products.
Demand for citrus oils is expected to rise 4.1 percent annually to $379 million in 2014. Citrus oils will see healthy gains in almost every category, with the notable exception of the large and mature carbonated soft drink market. However, other beverage segments, as well as growing popularity of less conventional citrus scents, such as clementine, grapefruit and tangerine, will bode well for demand, particularly in the personal care and cleaning product markets. Despite trends favoring the use of natural ingredients, competition from less expensive synthetic alternatives will continue to restrain overall advances.

Citrus oil is a natural product, and is therefore vulnerable to weather conditions and diseases. As a result, pricing can be exceptionally volatile. Citrus oil prices spiked in 2004 due to a supply shortage caused by several severe hurricanes. These tropical storms did major damage to Florida’s citrus crop, orange and grapefruit in particular. Aside from natural disasters, citrus yields can be significantly impacted by cold weather. For example, early 2011 price forecasts for a number of citrus oils, especially orange and grapefruit, have been increased based on cold weather that has reduced the size of the Florida crop. Lemon oil pricing is more dependent on imports, with weather conditions and other factors in Argentina and Spain influencing prices in the US. Lime oil pricing tends to be more stable, but as of early 2011 strong demand for lime oil is expected to push prices higher. Due to high prices and supply uncertainties of natural citrus oils, flavor and fragrance houses are intent on providing authentic synthetic alternatives at a reasonable cost. Continued improvement in alternatives will work to restrain demand for natural citrus oils to some degree.

Lemon oil is the leading type of citrus oil, accounting for more than half of total sales in 2009. One of the most widely used essential oils, lemon is used to flavor many food and beverage products. Orange oil is the second most widely used citrus oil, and is used in a variety of food and beverage products, as well as personal care and cleaning products. Other citrus oils, such as grapefruit, tangerine, and clementine, are also used in food and beverage products, as well as personal care and cleaning products. Lime oil is a minor player in the citrus oil market, but is expected to see strong growth in the future due to its versatility in food and beverage products, as well as personal care and cleaning products.

### Table IV-5

<table>
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<tr>
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<th>1999</th>
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<th>2009</th>
<th>2014</th>
<th>2019</th>
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<td>Food &amp; Beverage Shipments (bil $)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>$ citrus oil/000$ food &amp; beverages</td>
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<td>0.43</td>
<td>0.46</td>
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<td>0.53</td>
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<td>Citrus Oil Demand</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Lemon</td>
<td>0.10</td>
<td>0.13</td>
<td>0.17</td>
<td>0.20</td>
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<td>Orange</td>
<td>0.03</td>
<td>0.04</td>
<td>0.05</td>
<td>0.07</td>
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<tr>
<td>Other</td>
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<td>0.07</td>
<td>0.09</td>
<td>0.10</td>
<td>0.10</td>
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<td>By Market:</td>
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<tr>
<td>Beverages</td>
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<td>0.11</td>
<td>0.14</td>
<td>0.17</td>
<td>0.20</td>
</tr>
<tr>
<td>Other</td>
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<td>0.16</td>
<td>0.21</td>
<td>0.23</td>
</tr>
<tr>
<td>% citrus oils</td>
<td>39.8</td>
<td>41.2</td>
<td>41.9</td>
<td>42.1</td>
<td>41.7</td>
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<td>Essential Oil &amp; Natural Extract Demand</td>
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<td>0.48</td>
<td>0.59</td>
<td>0.74</td>
<td>0.90</td>
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### Chart V-1

US FLAVOR & FRAGRANCE MARKET SHARE BY COMPANY
($4.8 billion, 2009)
Sample Profile, Table & Forecast

Agilex Flavors & Fragrances Incorporated
10 Mountainview Road, North Atrium
Upper Saddle River, NJ 07458
201-236-8150
http://www.agilexfandf.com

Annual Sales: $70 million (estimated)
Employment: 150 (estimated)
Key Products: fragrances for air care products, personal care products and candles

Agilex Flavors & Fragrances is a leading manufacturer of flavors and fragrances for use in food, beverages, personal care products and home environment products. Prior to November 2010, the privately held company operated through two main divisions: Flavor and Fragrance. In November 2010, the Company sold the Flavor division (Rancho Santa Margarita, California), which operated as Agilex Flavors and had annual sales of approximately $30 million, to Kerry Group plc (Ireland).

The Company is active in the US flavor and fragrance industry through the Fragrance division (Piscataway, New Jersey), which develops, manufactures and sells fragrances and fragrance technologies for use in the production of air care products, personal care products and candles. Specific products include METAGEL and AROMAGEL gel matrices; THERMOCLEAR thermoplastic air freshener fragrance; TREASAIRES, AROMASPHERES and TREASAIRES macro-encapsulated water-based gel fragrance crystals; AROMAREED fragrances for reed diffuser products; AROMAPOLY fragrance polymer encapsulations; VANILLAWHITE vanilla fragrance supplement; SENSITECH malodor-reducing fragrance compound AROMAPUFFS foamed

<table>
<thead>
<tr>
<th>Item</th>
<th>1999</th>
<th>2004</th>
<th>2009</th>
<th>2014</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Shipments (bil $)</td>
<td>404.7</td>
<td>488.8</td>
<td>596.2</td>
<td>665.0</td>
<td>761.0</td>
</tr>
<tr>
<td>$ flavors/000$ food</td>
<td>3.1</td>
<td>2.9</td>
<td>2.9</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Food Flavor Demand</td>
<td>1235</td>
<td>1436</td>
<td>1740</td>
<td>1990</td>
<td>2280</td>
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<tr>
<td>Processed Food</td>
<td>443</td>
<td>512</td>
<td>636</td>
<td>717</td>
<td>808</td>
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<tr>
<td>Dairy Products</td>
<td>202</td>
<td>244</td>
<td>305</td>
<td>344</td>
<td>398</td>
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<tr>
<td>Bakery Products</td>
<td>223</td>
<td>255</td>
<td>290</td>
<td>331</td>
<td>367</td>
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<tr>
<td>Candy &amp; Confectioneries</td>
<td>195</td>
<td>216</td>
<td>243</td>
<td>281</td>
<td>330</td>
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<tr>
<td>Other</td>
<td>172</td>
<td>209</td>
<td>266</td>
<td>317</td>
<td>377</td>
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<tr>
<td>% food</td>
<td>37.4</td>
<td>36.7</td>
<td>36.6</td>
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<tr>
<td>Total Flavor &amp; Fragrance Demand</td>
<td>3300</td>
<td>3910</td>
<td>4750</td>
<td>5500</td>
<td>6400</td>
</tr>
</tbody>
</table>

“Demand for flavors in candy and confectioneries, including chewing gum and non-medicinal cough drops, is forecast to expand at an annual pace of 2.9 percent to $281 million in 2014, outpacing gains in the overall food flavor market. Demand will be driven by accelerating growth in candy and confectionery shipments through 2014. Advances will also benefit from the rising use of higher-quality (and more expensive) flavors providing increased intensity and greater impact.”

--Section III, pg. 50
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**Flavors & Fragrances**

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<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Use License (add to study price)</td>
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</tr>
<tr>
<td>Additional Print Copies @ $600 each</td>
<td>+ $2600</td>
</tr>
<tr>
<td>Enclosed is my check (5% discount) drawn on a US bank and payable to The Freedonia Group, Inc., in US funds (Ohio residents add 7.75% sales tax)</td>
<td></td>
</tr>
</tbody>
</table>

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Credit Card #

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