

## **Annex I to the IFRA Standards – 43<sup>rd</sup> Amendment**

This Annex gives indicative maximum levels of the limited substances in different fragrance materials (e.g. in essential oils). These indicative levels should be taken into account when determining the compliance of a fragrance compound under its conditions of use. However, if reliable analysis has shown that the level of the limited substance in a specific fragrance material is not the same as the indicative level given in this Annex, then the analysed level can be used instead of the indicative level.

The list is intended to be as comprehensive as possible but still remains illustrative only and cannot be regarded as exhaustive.

### **Part I**

Alphabetical list of the materials that have a Standard and for which contributions from other sources need to be taken into account, listing the sources with indicative values

| <b>Material with a Standard</b> | <b>Other source</b>          | <b>Level of restricted material in the other source (%)</b> |
|---------------------------------|------------------------------|---|
| Benzyl alcohol                  | Cassie absolute              | < 8   |
|                                 | Hyacinth absolute            | < 2   |
|                                 | Peru balsam oil and extracts | < 4.5   |
|                                 | Tolu balsam                  | < 0.5   |
|                                 | Ylang extra super            | < 0.5   |
|                                 | Ylang Extra                  | < 0.5   |
|                                 | Ylang Type I, II and III     | < 0.5   |
|                                 | Styrax resin                 | < 0.1   |
|                                 |                              |   |
| Benzyl benzoate                 | Peru balsam oil and extracts | < 78  |
|                                 | Flouve absolute              | < 60  |
|                                 | Tolu balsam                  | < 37.5  |
|                                 | Carnation absolute           | < 15  |
|                                 | Ylang Type 2                 | < 10  |
|                                 | Ylang Type 1                 | < 9.2   |
|                                 | Ylang Type 3                 | < 8.5   |
|                                 | Ylang Extra                  | < 8   |
|                                 | Ylang extra super            | < 6   |
|                                 | Cananga oil                  | < 5   |
|                                 | Cinnamon leaf oil            | < 4   |
|                                 | Hyacinth absolute            | < 3   |
|                                 | Rosewood oil                 | < 1.6   |
|                                 | Cinnamon bark oil            | < 1.5   |
|                                 | Cassia oil                   | < 1   |
|                                 | Tuberose concrete            | < 1   |
|                                 | Benzoin oil                  | < 0.2   |
|                                 |                              |   |
| Benzyl cinnamate                | Peru balsam oil and extracts | < 9   |
|                                 | Tolu balsam                  | < 4.6   |
|                                 | Styrax resin                 | < 1.5   |
|                                 | Benzoin oil                  | < 0.8   |
|                                 | Immortelle oil               | < 0.2   |

|                           |   |         |
|---------------------------|---|---------|
|                           |   |         |
| Benzyl salicylate         | Ylang Type III                                      | < 5     |
|                           | Carnation absolute                                  | < 4     |
|                           | Ylang Extra   | < 4     |
|                           | Ylang Type I  | < 4     |
|                           | Ylang Type II                                       | < 4     |
|                           | Ylang extra super                                   | < 3.5   |
|                           | Cananga oil   | < 3     |
|                           |   |         |
| Carvone                   | Chinese spearmint 80 oil                            | < 80    |
|                           | Chinese spearmint 60 oil                            | < 60    |
|                           | Native/Scottish spearmint oil                       | < 70    |
|                           | Dill seed oil                                       | < 50-30 |
|                           | Caraway oil   | < 50    |
|                           | Dill weed oil                                       | < 30    |
|                           | Gingergrass oil                                     | < 4     |
|                           | Pemou oil   | < 3     |
|                           | Celery seed oil                                     | < 0.2   |
|                           | Parshley leaf oil                                   | < 0.2   |
|                           | Abies alba oil                                      | < 0.1   |
|                           |   |         |
| Cinnamic alcohol          | Styrax oil  | < 54    |
|                           | Styrax resin  | < 3.5   |
|                           | Cassia oil  | < 1     |
|                           | Cinnamon leaf oil                                   | < 1     |
|                           | Tolu balsam   | < 0.6   |
|                           | Cinnamon bark oil                                   | < 0.2   |
|                           |   |         |
| Cinnamic aldehyde         | Cassia oil  | < 90    |
|                           | Cinnamon bark oil                                   | < 75    |
|                           | Cinnamic aldehyde – Methyl anthranilate Schiff Base | < 50    |
|                           | Hyacinth absolute                                   | < 3     |
|                           | Cinnamon leaf oil                                   | < 3     |
|                           | Tolu balsam   | < 1.7   |
|                           | Styrax oil  | < 1.1   |
|                           | Armoise oil (Artemisia alba)                        | < 1     |
|                           |   |         |
| Citral (neral + geranial) | Lemongras oil                                       | < 90    |
|                           | Litsea cubeba oil                                   | < 78    |
|                           | Melissa oil   | < 60    |
|                           | Petitgrain lemon oil                                | < 26    |
|                           | Lime oil (expressed)                                | < 6.5   |
|                           | Verbena (Lippia citriodora) abs.                    | < 5     |
|                           | Lemon oil(s)  | < 3     |
|                           | Lime oil (distilled)                                | < 3     |
|                           | Geranium oil(s)                                     | < 1.5   |
|                           | Citronella oil (Java, China, Vietnam)               | < 1.3   |
|                           | Geranium oil (China)                                | < 1.2   |
|                           | Citronella oil (Ceylon)                             | < 1.1   |
|                           | Bay oil   | < 1     |
|                           | Palmarosa oil                                       | < 1     |
|                           | Petitgrain bergamot oil                             | < 1     |

|                |   |        |
|----------------|---|--------|
|                | Petitgrain bitter orange oil (Paraguay) | < 1    |
|                | Rose oil (Bulgaria)                     | < 1    |
|                | Rose oil (Marocco)                      | < 1    |
|                | Rose oil (China)                        | < 1.5  |
|                | Rose oil (Turkey)                       | < 2    |
|                | Ginger oil (India)                      | < 0.8  |
|                | Bergamot oil expressed                  | < 0.7  |
|                | Cardamom oil                            | < 0.6  |
|                | Bergamot oil distilled                  | < 0.4  |
|                | Neroli oil                              | < 0.3  |
|                | Petitgrain bitter orange oil            | < 0.3  |
|                | Grapefruit oil                          | < 0.15 |
|                | Orange sweet oil(s)                     | < 0.1  |
|                | Orange bitter oil                       | < 0.1  |
|                | Petitgrain mandarin oil                 | < 0.1  |
|                |   |        |
| dl-Citronellol | Rose oil (Bulgaria)                     | < 34   |
|                | Rose oil (Marocco)                      | < 20   |
|                | Rose oil (China)                        | < 31   |
|                | Rose oil (Turkey)                       | < 49   |
|                | Geranium oil (North Africa)             | < 36   |
|                | Geranium oil (Bourbon)                  | < 26   |
|                | Geranium oil (China)                    | < 43   |
|                | Citronella oil (Java, China, Vietnam)   | < 14   |
|                | Citronella oil (Ceylon)                 | < 8.5  |
|                | Melissa oil                             | < 3    |
|                | Rose absolutes                          | < 3    |
|                | Tagetes                                 | < 3    |
|                | Litsea cubeba oil                       | < 1.5  |
|                | Lemongrass oil                          | < 0.8  |
|                | Chamomile oil (Roman)                   | < 0.7  |
|                | Eucalyptus citriodora oil               | < 0.7  |
|                | Basil oil (linalool type)               | < 0.3  |
|                | Myrtle oil                              | < 0.3  |
|                | Spike Lavender oil                      | < 0.3  |
|                | Armoise oil (Artemisia alba)            | < 0.2  |
|                | Nutmeg oil                              | < 0.2  |
|                |   |        |
| Coumarine      | Tonka bean absolute                     | < 65   |
|                | Deer tongue leaf absolute               | < 25   |
|                | Lavender absolute                       | < 10   |
|                | Lavandin absolute                       | < 8    |
|                | Hay absolute                            | < 8    |
|                | Cassia oil                              | < 1    |
|                | Fouve absolute                          | < 0.8  |
|                | Narcissus absolute                      | < 0.5  |
|                | Lavandin oil                            | < 0.3  |
|                | Tobacco absolute                        | < 0.3  |
|                | Mimosa absolute (VP)                    | < 0.25 |
|                | Tobacco nicotine-free absolute          | < 0.15 |
|                | Lavender oil                            | < 0.1  |
|                | Clary Sage absolute (VP)                | < 0.1  |
|                | Peru absolute                           | < 0.1  |

|          |  |              |
|----------|--|--------------|
|          |  |              |
| Eugenol  | Clove oil                                    | < 92         |
|          | Cinnamon leaf oil                            | < 85         |
|          | Pimento berry oil or leaf oil                | < 85         |
|          | Bay oil                                      | < 56         |
|          | <b>Carnation absolute</b>                    | < 15         |
|          | Basil oil (linalool type)                    | < 15         |
|          | Cinnamon bark oil                            | < 6          |
|          | <b>Hyacinth absolute</b>                     | < 2          |
|          | Laurel oils                                  | < 2          |
|          | Rose oils (Bulgaria, Morocco, China, Turkey) | < 1.5        |
|          | Mace oil                                     | < 1.1        |
|          | <b>Rose absolutes</b>                        | < 1          |
|          | <b>Tuberose absolute</b>                     | < 1          |
|          | Citronella oil (Java, China, Vietnam)        | < 1          |
|          | Citronella oil Ceylon                        | Traces < 0.1 |
|          | Cananga oil                                  | < 0.7        |
|          | Myrtle oil                                   | < 0.7        |
|          | Nutmeg oil                                   | < 0.6        |
|          | Basil oil (estrugole type)                   | < 0.5        |
|          | Cassia oil                                   | < 0.5        |
|          | Ylang extra super                            | < 0.5        |
|          | Ylang Extra                                  | < 0.5        |
|          | Ylang Type I, II and III                     | < 0.5        |
|          | Cascarilla oil                               | < 0.3        |
|          | Lemongrass oils                              | < 0.3        |
|          | Origanum (Spanish)                           | < 0.3        |
|          | Estragon oil (Tarragon oil)                  | < 0.2        |
|          | Tagetes                                      | < 0.2        |
|          | Davana oil                                   | < 0.1        |
|          | Spike Lavender oil                           | < 0.1        |
|          | Tolu balsam extract                          | < 0.1        |
|          |  |              |
| Farnesol | <b>Sandalwood oil Australia</b>              | < 9          |
|          | Ambrette seed oil                            | < 5          |
|          | <b>Rose absolutes</b>                        | < 5          |
|          | Neroli oil                                   | < 4          |
|          | Ylang Ylang type II                          | < 4          |
|          | Ylang Ylang oil type III                     | < 4          |
|          | Cabreuva oil                                 | < 3          |
|          | Ylang Ylang oils extra                       | < 3          |
|          | Ylang Ylang oil I                            | < 3          |
|          | Orange flower absolute                       | < 2.6        |
|          | Ylang Ylang absolute                         | < 2.2        |
|          | Cananga oil                                  | < 2          |
|          | Ylang extra super oil                        | < 2          |
|          | Palmarosa oil                                | < 1.2        |
|          | Citronella oil (Java, China, Vietnam)        | < 1          |
|          | Rose damascena oil                           | < 1          |
|          |  |              |
| Geraniol | Palmarosa oil                                | < 85         |
|          | Rose oil (Bulgaria)                          | < 22         |
|          | Rose oil (Marocco)                           | < 47         |

|                 |   |        |
|-----------------|---|--------|
|                 | Rose oil (China)                                | < 18.3 |
|                 | Rose oil (Turkey)                               | < 20   |
|                 | Citronella oil (Java, China, Vietnam)           | < 25   |
|                 | Citronella oil (Ceylon)                         | < 23   |
|                 | Geranium oil(s) (North Africa, Bourbon)         | < 20   |
|                 | Geranium oil China                              | < 12   |
|                 | Sandalwood oil Australia                        | < 10   |
|                 | Orange flower absolute                          | < 7    |
|                 | Lemongrass oil                                  | < 7    |
|                 | Rose absolutes                                  | < 5    |
|                 | Petitgrain oil (Paraguay)                       | < 4.5  |
|                 | Petitgrain bergamot oil                         | < 4    |
|                 | Petitgrain bitter orange oil                    | < 4    |
|                 | Neroli oil                                      | < 3.5  |
|                 | Petitgrain lemon oil                            | < 3.5  |
|                 | Cabreuva oil                                    | < 3    |
|                 | Coriander fruit oil                             | < 3    |
|                 | Ylang Extra                                     | < 3    |
|                 | Ylang Type I                                    | < 2.6  |
|                 | Rosewood oil                                    | < 2.5  |
|                 | Ylang Type II                                   | < 2.4  |
|                 | Clary Sage oil                                  | < 2.2  |
|                 | Carrot (seed) oil                               | < 2    |
|                 | Mentha citrata oil(s)                           | < 2    |
|                 | Cananga oil                                     | < 1.5  |
|                 | Lavender absolute                               | < 1.5  |
|                 | Lavandin absolute                               | < 1.5  |
|                 | Litsea cubeba oil                               | < 1.5  |
|                 | Cardamom oil                                    | < 1.2  |
|                 | Cistus (Rockrose) oil                           | < 1.2  |
|                 | Lavender oil(s)                                 | < 1.1  |
|                 | Myrtle oil                                      | < 0.8  |
|                 | Ylang Type III                                  | < 0.8  |
|                 | Chamomile oil (Roman)                           | < 0.7  |
|                 | Ylang extra super                               | < 0.7  |
|                 | Lavandin oil(s)                                 | < 0.6  |
|                 | Red Thyme oil (Spanish)                         | < 0.5  |
|                 | Cajuput oil                                     | < 0.4  |
|                 | Coriander leaf oil                              | < 0.4  |
|                 | Ho oil(s)                                       | < 0.4  |
|                 | Lime oil (expressed)                            | < 0.4  |
|                 | Lime oil (distilled)                            | < 0.4  |
|                 | Nutmeg oil                                      | < 0.4  |
|                 | Sage oil(s)                                     | < 0.4  |
|                 | Laurel oils                                     | < 0.3  |
|                 | Marjoram sweet oil                              | < 0.3  |
|                 | Basil oil (linalool type)                       | < 0.2  |
|                 | Hop oil   | < 0.2  |
|                 | Lemon oil(s)                                    | < 0.2  |
|                 | Spike lavender oil                              | < 0.2  |
| trans-2-Hexenal | Marjoram oil sweet ( <i>Origanum majorana</i> ) | < 0.5  |
|                 | Clary sage ( <i>Salvia sclarea</i> ) oil        | < 0.1  |

|                                       |   |                 |
|---------------------------------------|---|-----------------|
|                                       | Origanum oil (Turkish)                        | < 0.1           |
|                                       | Peppermint ( <i>Mentha piperita</i> ) oil     | < 0.1           |
|                                       | Petitgrain oil (various types)                | < 0.1           |
|                                       | Spearmint ( <i>Mentha spicata</i> ) oil       | < 0.1           |
|                                       | Jasmine Sambac absolute                       | Traces < 0.1    |
|                                       | Laurel leaf ( <i>Laurus nobilis</i> ) oil     | Traces < 0.1    |
|                                       | Thyme oil (Thymol chemotype)                  | Traces < 0.1    |
|                                       | Violet leaf ( <i>Viola odorata</i> ) absolute | Traces < 0.1    |
|                                       |   |                 |
| Isoeugenol                            | Nutmeg oil                                    | < 1.0           |
|                                       | Pimento berry or leaf oil                     | < 1.0           |
|                                       | Clove oils                                    | < 0.5           |
|                                       | Ylang extra super                             | < 0.5           |
|                                       | Ylang Extra                                   | < 0.5           |
|                                       | Ylang Type I, II and III                      | < 0.5           |
|                                       | Origanum (Spanish)                            | < 0.3           |
|                                       | Mace oil                                      | < 0.2           |
|                                       |   |                 |
| Methyl eugenol                        | Pimento berry oil or leaf oil                 | < 15            |
|                                       | Basil oil (linalool + estragole type)         | < 6             |
|                                       | Bay oil                                       | < 4             |
|                                       | Rose oil Bulgaria (different types)           | < 3.5           |
|                                       | Rose oil China                                | < 3.5           |
|                                       | Rose oil Morocco                              | < 3.5           |
|                                       | Rose oil Turkey                               | < 3.5           |
|                                       | Citronella oil (Sri Lanka)                    | < 2             |
|                                       | Estragon oil (Tarragon oil)                   | < 1.5           |
|                                       | Lovage leaf oil                               | < 1.5           |
|                                       | <b>Rose absolutes</b>                         | <b>&lt; 1.5</b> |
|                                       | Cascarilla oil                                | < 1             |
|                                       | Hyssop oil                                    | < 1             |
|                                       | Savory winter oil                             | < 1             |
|                                       | Nutmeg oil                                    | < 1             |
|                                       | Calamus oil                                   | < 1             |
|                                       | Clove oil                                     | < 0.5           |
|                                       | Cananga oil                                   | < 0.5           |
|                                       | Carrot (seed) oil                             | < 0.5           |
|                                       | Mace oil                                      | < 0.5           |
|                                       | Citronella oil (Java, China, Vietnam)         | < 0.2           |
|                                       | Cassia oil                                    | < 0.1           |
|                                       |   |                 |
| Methyl N-methylantranilate            | Petitgrain Mandarin oil                       | < 60%           |
|                                       | Mandarin oil                                  | < 0.5           |
|                                       | Petitgrain Lemon oil                          | < 0.2           |
|                                       | Broom absolute                                | < 0.2           |
|                                       | Petitgrain Bigarade oil                       | < 0.1           |
|                                       |   |                 |
| p-Mentha-1,8-dien-7-al (Perilla Ald.) | Perilla oil                                   | < 50-60         |
|                                       | Orange oil folded 10 X or 5 X                 | < 0.3           |
|                                       | Mandarine oil                                 | < 0.1           |
|                                       |   |                 |

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|                      |                                    |                |
|----------------------|------------------------------------|----------------|
| 1-Octen-3-yl acetate | Lavander oil(s)<br>Lavandin oil(s) | < 0.4<br>< 1.4 |
|----------------------|------------------------------------|----------------|

**End Part I**

**Part II**

Alphabetical list of other sources (complex synthetic materials or essential oils) for restricted materials having Standards and which must therefore be taken into account for determination of the maximum level

| <b>Other source</b>                   | <b>Restricted material affected</b>   | <b>Level of restricted material in other source (%)</b> |
|---------------------------------------|---|---|
| Abies alba oil                        | Carvone   | < 0.1   |
| Ambrette seed oil                     | Farnesol  | < 5   |
| Armoise oil ( <i>Artemisia alba</i> ) | dl-Citronellol<br><b>Cinnamic aldehyde</b>  | < 0.2<br><b>&lt; 1</b>                                  |
| Basil oil (Linalool type)             | dl-Citronellol<br>Eugenol<br>Geraniol<br>Methyl eugenol                                   | < 0.3<br>< 15<br>< 0.2<br>< 6                           |
| Basil oil (Estragole type)            | Eugenol<br>Methyl eugenol   | < 0.5<br>< 6  |
| Bay oil                               | Eugenol<br>Methyl eugenol   | < 56<br>< 4   |
| Benzoin oil                           | Benzyl benzoate<br>Benzyl cinnamate<br><b>Citral (Neral + Geranial)</b>                   | < 0.2<br>< 0.8<br><b>&lt; 1</b>                         |
| Bergamot oil expressed                | Citral  | < 0.7   |
| Bergamot oil distilled                | Citral  | < 0.4   |
| Broom absolute                        | Methyl N-methylantranilate  | < 0.2   |
| Cabreuva oil                          | Farnesol<br><b>Geraniol</b>   | < 3<br><b>&lt; 3</b>                                    |
| Cajuput oil                           | Geraniol  | < 0.4   |
| Calamus oil                           | Methyl eugenol  | < 1   |
| Cananga oil                           | Benzyl benzoate<br>Benzyl salicylate<br>Eugenol<br>Farnesol<br>Geraniol<br>Methyl eugenol | < 5<br>< 3<br>< 0.7<br>< 2<br>< 1.5<br>< 0.5            |
| Caraway oil                           | Carvone   | < 50  |
| <b>Carnation absolute</b>             | <b>Benzyle salicylate</b><br><b>Benzyle benzoate</b><br><b>Eugenol</b>                    | <b>&lt; 4</b><br><b>&lt; 15</b><br><b>&lt; 15</b>       |
| Cardamom oil                          | Citral<br>Geraniol  | < 0.6<br>< 1.2  |
| Carrot (seed) oil                     | Geraniol<br>Methyl eugenol  | < 2<br>< 0.5  |
| Cascarilla oil                        | Eugenol<br><b>Coumarine</b><br>Methyl eugenol   | < 0.3<br><b>&lt; 1</b><br>< 1                           |
| Cassia oil                            | Benzyl benzoate<br>Cinnamic alcohol<br>Cinnamic aldehyde<br>Eugenol<br>Methyl eugenol     | < 1<br>< 1<br>< 90<br>< 0.5<br>< 0.1                    |
| <b>Cassie absolute</b>                | <b>Benzyl alcohol</b>   | <b>&lt; 8</b>   |

|  |   |  |
|--|---|--|
| Celery seed oil                          | Carvone   | 0.2  |
| Chamomile oil (Roman)                    | dl-Citronellol<br>Geraniol  | < 0.7<br>< 0.7                               |
| Cinnamon bark oil                        | Benzyl benzoate<br>Cinnamic alcohol<br>Cinnamic aldehyde<br>Eugenol           | < 1.5<br>< 0.2<br>< 75<br>< 6                |
| Cinnamon leaf oil                        | Benzyl benzoate<br>Cinnamic alcohol<br>Cinnamic aldehyde<br>Eugenol           | < 4<br>< 1<br>< 3<br>< 85                    |
| Cistus (Rockrose) oil                    | Geraniol  | < 1.2  |
| Citronella oil (Ceylon)                  | dl-Citronellol<br>Citral<br>Eugenol<br>Geraniol<br>Methyl eugenol             | < 8.5<br>< 1.1<br>Traces <0.1<br>< 23<br>< 2 |
| Citronella oils (Java, China, Vietnam)   | Citral<br>dl-Citronellol<br>Eugenol<br>Geraniol<br>Farnesol<br>Methyl eugenol | < 1.3<br>< 14<br>< 1<br>< 25<br>< 1<br>< 0.2 |
| Clary sage ( <i>Salvia sclarea</i> ) oil | Trans-2-Hexenal<br>Geraniol<br>Coumarine                                      | < 0.1<br>< 2.2<br>0.1                        |
| Clove oil                                | Eugenol<br>Isoeugenol<br>Methyl eugenol                                       | < 92<br>< 0.5<br>< 0.5                       |
| Coriander fruit oil                      | Geraniol  | < 3  |
| Coriander leaf oil                       | Geraniol  | < 0.4  |
| Davana oil                               | Eugenol   | < 0.1  |
| Deer tongue leaf absolute                | Coumarine   | < 25   |
| Dill seed oil                            | Carvone   | 50-30  |
| Dill weed oil                            | Carvone   | < 30   |
| Estragon oil (Tarragon oil)              | Eugenol<br>Methyl eugenol   | < 0.2<br>< 1.5                               |
| Eucalyptus citriodora oil                | dl-Citronellol  | < 0.7  |
| Flouve absolute                          | Coumarine<br>Benzyl benzoate  | < 0.8<br>< 60                                |
| Geranium oil (North Africa)              | Citral<br>dl-Citronellol<br>Geraniol  | < 1.5<br>< 36<br>< 18                        |
| Geranium oil (Bourbon)                   | Citral<br>dl-Citronellol<br>Geraniol  | < 1.5<br>< 26<br>< 20                        |
| Geranium oil (China)                     | Citral<br>dl-Citronellol<br>Geraniol  | < 1.2<br>< 43<br>< 12                        |
| Ginger oil (India)                       | Citral  | < 0.8  |
| Gingergrass oil                          | Carvone   | < 4  |
| Grapefruit oil                           | Citral  | < 0.15                                       |
| Hay absolute                             | Coumarine   | < 8  |

|  |   |                               |
|--|---|-------------------------------|
| Ho oil(s)                              | Geraniol  | < 0.4                         |
| Hop oil                                | Geraniol  | < 0.2                         |
| Hyacinth absolute                      | Benzyle alcohol<br>Eugenol<br>Benzyle benzoate<br>Cinnamic aldehyde | < 2<br>< 2<br>< 3<br>< 3      |
| Hyssop oil                             | Methyl eugenol  | < 1                           |
| Immortelle oil                         | Benzyl cinnamate  | < 0.2                         |
| Jasmine Sambac absolute                | trans-2-Hexenal   | Traces < 0.1                  |
| Laurel oil(s)                          | Eugenol<br>Geraniol   | < 2<br>< 0.3                  |
| Laurel leaf (Laurus nobilis) oil       | Trans-2-Hexenal   | Traces < 0.1                  |
| Lavandin oil(s)                        | Coumarine<br>Geraniol<br>1-Octen-3-yl acetate                       | < 0.3<br>< 0.6<br>< 1.4       |
| Lavandin absolute                      | Coumarine<br>Geraniol   | < 8<br>< 1.5                  |
| Lavender absolute                      | Coumarine<br>Geraniol   | < 10<br>< 1.5                 |
| Lavender oil(s)                        | Coumarine<br>Geraniol<br>1-Octen-3-yl acetate                       | < 0.1<br>< 1.1<br>< 0.4       |
| Lemongras oil                          | Citral<br>dl-Citronellol<br>Geraniol<br>Eugenol                     | < 90<br>< 0.8<br>< 7<br>< 0.3 |
| Lemon oil(s)                           | Citral<br>Geraniol  | < 3<br>< 0.2                  |
| Lime oil (distilled)                   | Citral<br>Geraniol  | < 3<br>< 0.4                  |
| Lime oil (expressed)                   | Citral<br>Geraniol  | < 6.5<br>< 0.4                |
| Litsea cubeba oil                      | Citral<br>dl-Citronellol<br>Geraniol                                | < 78<br>< 1.5<br>< 1.5        |
| Lovage leaf oil                        | Methyl eugenol  | < 1.5                         |
| Mace oil                               | Eugenol<br>Isoeugenol<br>Methyl eugenol                             | < 1.1<br>< 0.2<br>< 0.5       |
| Mandarin oil                           | p-Mentha-1,8-dien-7-al (Perilla Ald.)<br>Methyl N-methylantranilate | < 0.1<br>< 0.5                |
| Marjoram oil sweet (Origanum majorana) | trans-2-Hexenal<br>Geraniol   | < 0.5<br>< 0.3                |
| Melissa oil                            | dl-Citronellol<br>Citral (Neral + Geranial)                         | < 3<br>< 60                   |
| Mentha citrata oil(s)                  | Geraniol  | < 2                           |
| Mimosa absolute (VP)                   | Coumarine   | < 0.25                        |
| Myrtle oil                             | dl-Citronellol<br>Eugenol<br>Geraniol                               | < 0.3<br>< 0.7<br>< 0.8       |
| Narcissus absolute                     | Coumarine   | < 0.5                         |
| Neroli oil                             | Citral  | < 0.3                         |

|  |   |                                       |
|--|---|---------------------------------------|
|  | Farnesol<br>Geraniol  | < 4<br>< 3.5                          |
| Nutmeg oil                                   | dl-Citronellol<br>Eugenol<br>Geraniol<br>Isoeugenol<br>Methyl eugenol | < 0.2<br>< 0.6<br>< 0.4<br>< 1<br>< 1 |
| Orange flower absolute                       | Farnesol<br><b>Geraniol</b>   | < 2.6<br><b>&lt; 7</b>                |
| Orange oil bitter                            | Citral  | < 0.1                                 |
| Orange oil folded 10 X or 5 X                | p-Mentha-1,8-dien-7-al (Perilla Ald.)                                 | < 0.3                                 |
| Orange oil(s) sweet                          | Citral  | < 0.1                                 |
| Origanum oil (Turkish)                       | Trans-2-hexenal   | < 0.1                                 |
| Origanum (Spanish)                           | Eugenol<br>Isoeugenol   | < 0.3<br>< 0.3                        |
| Palmarosa oil                                | <b>Citral (Neral + Geranial)</b><br>Farnesol<br>Geraniol              | < 1<br>< 1.2<br>< 85                  |
| Parshley leaf oil                            | Carvone   | < 0.2                                 |
| <b>Pemou oil</b>                             | <b>Carvone</b>  | <b>&lt; 3</b>                         |
| Peppermint (Mentha piperita) oil             | trans-2-Hexenal   | < 0.1                                 |
| Perilla oil                                  | p-Mentha-1,8-dien-7-al (Perilla Ald.)                                 | < 60-50                               |
| Peru absolute                                | Coumarine   | < 0.1                                 |
| Peru balsam oil and extracts                 | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl cinnamate                 | < 4.5<br>< 78<br>< 9                  |
| Petitgrain bergamot oil                      | Citral<br>Geraniol<br>trans-2-Hexenal                                 | < 1<br>< 4<br>< 0.1                   |
| Petitgrain bigarade oil                      | trans-2-Hexenal<br>Methyl N-methylantranilate                         | < 0.1<br>< 0.1                        |
| Petitgrain bitter orange oil                 | Citral<br>Geraniol<br>trans-2-Hexenal                                 | < 0.3<br>< 4<br>< 0.1                 |
| Petitgrain bitter orange oil (Paraguay type) | Citral<br>Geraniol<br>trans-2-Hexenal                                 | < 1<br>< 4.5<br>< 0.1                 |
| Petitgrain lemon oil                         | Citral<br>Geraniol<br>trans-2-Hexenal<br>Methyl N-methylantranilate   | < 26<br>< 3.5<br>< 0.1<br>< 0.2       |
| Petitgrain mandarin oil                      | Citral<br>trans-2-Hexenal<br>Methyl N-methylantranilate               | < 0.1<br>< 0.1<br>< 60                |
| Pimento berry oil                            | Eugenol<br>Isoeugenol<br>Methyl eugenol                               | < 85<br>< 1.0<br>< 15                 |
| Pimento leaf oil                             | Eugenol<br>Isoeugenol<br>Methyl eugenol                               | < 85<br>< 1.0<br>< 15                 |
| Red Thyme oil (Spanish)                      | Geraniol  | < 0.5                                 |
| Rose oil (Bulgaria)                          | Citral  | < 1                                   |

|  |   |   |
|--|---|---|
|  | dl-Citronellol<br>Eugenol<br>Geraniol<br>Methyl eugenol           | < 34<br>< 1.5<br>< 22<br>< 3.5            |
| Rose oil (Marocco)                                       | Citral<br>dl-Citronellol<br>Eugenol<br>Geraniol<br>Methyl eugenol | < 1<br>< 20<br>< 1.5<br>< 47<br>< 3.5     |
| Rose oil (China)   | Citral<br>dl-Citronellol<br>Eugenol<br>Geraniol<br>Methyl eugenol | < 1.5<br>< 31<br>< 1.5<br>< 18.3<br>< 3.5 |
| Rose oil (Turkey)  | Citral<br>dl-Citronellol<br>Eugenol<br>Geraniol<br>Methyl eugenol | < 2<br>< 49<br>< 1.5<br>< 20<br>< 3.5     |
| Rose absolutes   | Citronellol<br>Eugenol<br>Farnesol<br>Geraniol<br>Methyleugenol   | < 3<br>< 1<br>< 5<br>< 5<br>< 1.5         |
| Rose damascena oil                                       | Farnesol  | < 1                                       |
| Rosewood oil   | Benzyl benzoate<br>Geraniol                                       | < 1.6<br>< 2.5                            |
| Sage oil(s)  | Geraniol  | < 0.4                                     |
| Sandalwood oil Australia                                 | Farnesol<br>Geraniol  | < 9<br>< 10                               |
| Savory winter oil  | Methyl eugenol  | < 1                                       |
| Schiff base<br>Cinnamic aldehyde-<br>Methyl anthranilate | Cinnamic aldehyde   | < 50                                      |
| Spearmint (Mentha<br>spicata) oil                        | trans-2-Hexenal   | < 0.1                                     |
| Spike Lavender oil                                       | dl-Citronellol<br>Eugenol<br>Geraniol                             | < 0.3<br>< 0.1<br>< 0.2                   |
| Chinese spearmint 60-80<br>oil                           | Carvone   | < 60-80                                   |
| Styrax oil   | Cinnamic alcohol<br>Cinnamic aldehyde                             | < 54<br>< 1.1                             |
| Styrax resin   | Benzyl alcohol<br>Benzyl cinnamate<br>Cinnamic alcohol            | < 0.1<br>< 1.5<br>< 3.5                   |
| Tagetes oil  | dl-Citronellol<br>Eugenol   | < 3<br>< 0.2                              |
| Tarragon oil   | See: Estragon oil   |   |
| Thyme oil (Thymol<br>chemotype)                          | trans-2-Hexenal   | Traces < 0.1                              |
| Tobacco absolute   | Coumarine   | < 0.3                                     |

|                                      |   |   |
|--------------------------------------|---|---|
| Tobacco nicotine-free absolute       | Coumarine   | < 0.15  |
| Tolu balsam                          | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl cinnamate<br>Cinnamic alcohol<br>Cinnamic aldehyde<br>Eugenol | < 0.5<br>< 37.5<br>< 4.6<br>< 0.6<br>< 1.7<br>< 0.1     |
| Tonka bean absolute                  | Coumarine   | < 65  |
| Tuberose absolute                    | Eugenol   | < 1   |
| Tuberose concrete                    | Benzyle benzoate  | < 1   |
| Verbena (Lippia citriodora) absolute | Citral  | < 5   |
| Violet leaf (Viola odorata) absolute | trans-2-Hexenal   | Traces < 0.1  |
| Ylang Ylang extra super oil          | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl salicylate<br>Eugenol<br>Farnesol<br>Geraniol<br>Isoeugenol   | < 0.5<br>< 6<br>< 3.5<br>< 0.5<br>< 2<br>< 0.7<br>< 0.5 |
| Ylang Ylang extra oil(s) (Comores)   | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl salicylate<br>Eugenol<br>Farnesol<br>Geraniol<br>Isoeugenol   | < 0.5<br>< 8<br>< 4<br>< 0.5<br>< 3<br>< 3<br>< 0.5     |
| Ylang Ylang Type I                   | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl salicylate<br>Eugenol<br>Farnesol<br>Geraniol<br>Isoeugenol   | < 0.5<br>< 9.2<br>< 4<br>< 0.5<br>< 3<br>< 2.6<br>< 0.5 |
| Ylang Ylang Type II                  | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl salicylate<br>Eugenol<br>Farnesol<br>Geraniol<br>Isoeugenol   | < 0.5<br>< 10<br>< 4<br>< 0.5<br>< 4<br>< 2.4<br>< 0.5  |
| Ylang Ylang Type III                 | Benzyl alcohol<br>Benzyl benzoate<br>Benzyl salicylate<br>Eugenol<br>Farnesol<br>Geraniol<br>Isoeugenol   | < 0.5<br>< 8.5<br>< 5<br>< 0.5<br>< 4<br>< 0.8<br>< 0.5 |
| Ylang Ylang absolute                 | Farnesol  | < 2.2   |