

Annex 1 to the IFRA Standards

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

Material with a Standard	Other source	Level of restricted material in the other source (%)
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
	Cinnamon leaf oil	< 3
	Tolu balsam	< 1.7
	Styrax oil	< 1.1
Citral (neral + geranial)	Lemongras oil	< 90
	Litsea cubeba oil	< 78
	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
	Citronella oil Ceylon	< 1.1
	Petitgrain bergamot oil	< 1
	Petitgrain bitter orange oil (Paraguay)	< 1
	Rose oil(s)	< 1
	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
Eugenol	Clove oil	< 92
	Cinnamon leaf oil	< 85
	Pimenta berry oil or leaf oil	< 85
	Bay oil	< 56
	Basil oil (linalool type)	< 15
	Cinnamon bark oil	< 6
	Laurel oils	< 2
	Rose oils (Bulgaria, Morocco, China, Turkey)	< 1.5
	Mace oil	< 1.1
	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 (estragole 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	Ambrette seed oil	< 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 damascene oil	< 1
	Rose damascene absolute	< 0.5

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 Typr 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)	< 2.5
	Rose oil China	< 3.5
	Rose oil Morocco	< 2.6
	Rose oil Turkey	< 3.0
	Citronella oil (Sri Lanka)	< 2
	Estragon oil (Tarragon oil)	< 1.5
	Lovage leaf oil	< 1.5
	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

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

Other source	Restricted material affected	Level of restricted material in other source (%)
Ambrette seed oil	Farnesol	< 5
Basil oil (Linalool type)	Eugenol Methyl eugenol	<15 < 6
Basil oil (Estragole type)	Eugenol Methyl eugenol	< 0.5 < 6
Bay oil	Eugenol Methyl eugenol	<56 < 4
Bergamot oil expressed	Citral	< 0.7
Bergamot oil distilled	Citral	< 0.4
Broom absolute	Methyl N-methylantranilate	< 0.2
Cabreuva oil	Farnesol	< 3
Calamus oil	Methyl eugenol	< 1
Cananga oil	Eugenol Farnesol Methyl eugenol	< 0.7 < 2 < 0.5
Cardamom oil	Citral	< 0.6
Carrot seed oil	Methyl eugenol	< 0.5
Cascarilla oil	Eugenol Methyl eugenol	< 0.3 < 1
Cassia oil	Cinnamic alcohol Cinnamic aldehyde Eugenol Methyl eugenol	< 1 < 90 < 0.5 < 0.1
Cinnamon bark oil	Cinnamic alcohol Cinnamic aldehyde Eugenol	< 0.2 < 75 < 6
Cinnamon leaf oil	Cinnamic alcohol Cinnamic aldehyde Eugenol	< 1 < 3 < 85
Citronella oil (Ceylon)	Citral Eugenol	< 1.1 Traces <<0.1
Citronella oils (Java, China, Vietnam)	Citral Eugenol Farnesol Methyl eugenol	< 1.3 < 1 < 1 < 0.2
Citronella oil (Sri Lanka)	Methyl eugenol	< 2
Clary sage (Salvia sclarea) oil	trans-2-Hexenal	< 0.1
Clove oil	Eugenol Isoeugenol Methyl eugenol	< 92 < 0.5 < 0.5
Davana oil	Eugenol	< 0.1
Estragon oil (Tarragon oil)	Eugenol Methyl eugenol	< 0.2 < 1.5

Geranium oil(s)	Citral	< 1.5
Ginger oil (India)	Citral	< 0.8
Grapefruit oil	Citral	< 0.15
Hyssop oil	Methyl eugenol	< 1
Jasmine Sambac absolute	trans-2-Hexenal	Traces << 0.1
Laurel oils	Eugenol	< 2
Laurel leaf (Laurus nobilis) oil	trans-2-Hexenal	Traces << 0.1
Lemongras oil	Citral Eugenol	< 90 < 0.3
Lemon oil(s)	Citral	< 3
Lime oil distilled	Citral	< 3
Lime oil expressed	Citral	< 6.5
Litsea cubeba oil	Citral	< 78
Lovage leaf oil	Methyl eugenol	< 1.5
Mace oil	Eugenol Isoeugenol Methyl eugenol	<1.1 < 0.2 < 0.5
Mandarin oil	Methyl N-methylantranilate	< 0.5
Marjoram oil sweet (Origanum majorana)	trans-2-Hexenal	0.5
Myrtle oil	Eugenol	< 0.7
Neroli oil	Farnesol Citral	< 4 < 0.3
Nutmeg oil	Eugenol Isoeugenol Methyl eugenol	< 0.6 < 1 < 1
Orange flower absolute	Farnesol	< 2.6
Orange oil bitter	Citral	< 0.1
Orange oil(s) sweet	Citral	< 0.1
Origanum oil (Turkish)	trans-2-hexenal	< 0.1
Origanum (Spanish)	Eugenol Isoeugenol	< 0.3 < 0.3
Palmarosa oil	Farnesol	1.2
Peppermint (Mentha piperita) oil	trans-2-Hexenal	< 0.1
Petitgrain Bergamot oil	Citral trans-2-hexenal	< 1 < 0.1
Petitgrain Bigarade oil	trans-2-Hexenal Methyl N-methylantranilate	< 0.1 < 0.1
Petitgrain bitter orange oil	Citral trans-2-Hexenal	< 0.3 < 0.1
Petitgrain bitter orange oil (Paraguay type)	Citral trans-2-Hexenal	< 1 < 0.1
Petitgrain Lemon oil	Citral trans-2-Hexenal Methyl N-methylantranilate	< 26 < 0.1 < 0.2
Petitgrain Mandarin oil	Citral trans-2-Hexenal Methyl N-methylantranilate	< 0.1 < 0.1 < 60%

Pimenta berry oil	Eugenol Isoeugenol Methyl eugenol	< 85 < 1.0 < 15
Pimenta leaf oil	Eugenol Isoeugenol Methyl eugenol	< 85 < 1.0 < 15
Rose oil absolute	Farnesol	0.5
Rose oil (different types)	Citral Eugenol Methyl eugenol	< 1 < 1.5 < 3.5
Rose oil damascene	Farnesol	1
Savory winter oil	Methyl eugenol	< 1
Spearmint (Mentha spicata) oil	trans-2-Hexenal	< 0.1
Spike Lavender oil	Eugenol	< 0.1
Styrax oil	Cinnamic alcohol Cinnamic aldehyde	< 54 < 1.1
Styrax resin	Cinnamic alcohol	< 3.5
Tagetes	Eugenol	< 0.2
Tarragon oil	See: Estragon oil	
Thyme oil (Thymol chemotype)	trans-2-Hexenal	Traces << 0.1
Tolu balsam extract	Cinnamic alcohol Cinnamic aldehyde Eugenol	< 0.6 < 1.7 < 0.1
Verbena (Lippia citriodora) abs	Citral	< 5
Violet leaf (Viola odorata) absolute	trans-2-Hexenal	Traces << 0.1
Ylang Ylang extra super oil	Eugenol Farnesol Isoeugenol	< 0.5 < 2 < 0.5
Ylang Ylang extra oil(s) (Comores)	Eugenol Farnesol Isoeugenol	< 0.5 < 3 < 0.5
Ylang Ylang type I	Eugenol Farnesol Isoeugenol	< 0.5 < 3 < 0.5
Ylang Ylang type II	Eugenol Farnesol Isoeugenol	< 0.5 < 4 < 0.5
Ylang Ylang type III	Eugenol Farnesol Isoeugenol	< 0.5 < 4 < 0.5
Ylang Ylang absolute	Farnesol	< 2.2