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**► B REGULATION (EC) No 1334/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**of 16 December 2008**

**on flavourings and certain food ingredients with flavouring properties for use in and on foods and amending Council Regulation (EEC) No 1601/91, Regulations (EC) No 2232/96 and (EC) No 110/2008 and Directive 2000/13/EC**

(Text with EEA relevance)

(OJ L 354, 31.12.2008, p. 34)

Amended by:

		Official Journal		
		No	page	date
► <u>M1</u>	Commission Implementing Regulation (EU) No 872/2012 of 1 October 2012	L 267	1	2.10.2012
► <u>M2</u>	Commission Regulation (EU) No 545/2013 of 14 June 2013	L 163	15	15.6.2013
► <u>M3</u>	Commission Regulation (EU) No 985/2013 of 14 October 2013	L 273	18	15.10.2013
► <u>M4</u>	Commission Regulation (EU) No 246/2014 of 13 March 2014	L 74	58	14.3.2014
► <u>M5</u>	Commission Regulation (EU) No 1098/2014 of 17 October 2014	L 300	41	18.10.2014
► <u>M6</u>	Commission Regulation (EU) 2015/648 of 24 April 2015	L 107	15	25.4.2015
► <u>M7</u>	Commission Regulation (EU) 2015/1102 of 8 July 2015	L 181	54	9.7.2015
► <u>M8</u>	Commission Regulation (EU) 2015/1760 of 1 October 2015	L 257	27	2.10.2015
► <u>M9</u>	Commission Regulation (EU) 2016/54 of 19 January 2016	L 13	40	20.1.2016
► <u>M10</u>	Commission Regulation (EU) 2016/55 of 19 January 2016	L 13	43	20.1.2016
► <u>M11</u>	Commission Regulation (EU) 2016/178 of 10 February 2016	L 35	6	11.2.2016
► <u>M12</u>	Commission Regulation (EU) 2016/637 of 22 April 2016	L 108	24	23.4.2016
► <u>M13</u>	Commission Regulation (EU) 2016/692 of 4 May 2016	L 120	7	5.5.2016
► <u>M14</u>	Commission Regulation (EU) 2016/1244 of 28 July 2016	L 204	7	29.7.2016
► <u>M15</u>	Commission Regulation (EU) 2017/378 of 3 March 2017	L 58	14	4.3.2017
► <u>M16</u>	Commission Regulation (EU) 2017/1250 of 11 July 2017	L 179	3	12.7.2017
► <u>M17</u>	Commission Regulation (EU) 2018/678 of 3 May 2018	L 114	13	4.5.2018
► <u>M18</u>	Commission Regulation (EU) 2018/1246 of 18 September 2018	L 235	3	19.9.2018
► <u>M19</u>	Commission Regulation (EU) 2018/1482 of 4 October 2018	L 251	19	5.10.2018



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CHAPTER I

**SUBJECT MATTER, SCOPE AND DEFINITIONS**

*Article 1*

**Subject matter**

This Regulation lays down rules on flavourings and food ingredients with flavouring properties for use in and on foods with a view to ensuring the effective functioning of the internal market whilst ensuring a high level of protection of human health and a high level of consumer protection, including the protection of consumer interests and fair practices in food trade, taking into account, where appropriate, the protection of the environment.

For those purposes, this Regulation provides for:

- (a) a Community list of flavourings and source materials approved for use in and on foods, set out in Annex I (hereinafter referred to as the 'Community list');
- (b) conditions of use of flavourings and food ingredients with flavouring properties in and on foods;
- (c) rules on the labelling of flavourings.

*Article 2*

**Scope**

1. This Regulation shall apply to:

- (a) flavourings which are used or intended to be used in or on foods, without prejudice to more specific provisions laid down in Regulation (EC) No 2065/2003;
- (b) food ingredients with flavouring properties;
- (c) food containing flavourings and/or food ingredients with flavouring properties;
- (d) source materials for flavourings and/or source materials for food ingredients with flavouring properties.

2. This Regulation shall not apply to:

- (a) substances which have exclusively a sweet, sour or salty taste;
- (b) raw foods;
- (c) non-compound foods and mixtures such as, but not exclusively, fresh, dried or frozen spices and/or herbs, mixtures of tea and mixtures for infusion as such as long as they have not been used as food ingredients.

**▼B***Article 3***Definitions**

1. For the purposes of this Regulation, the definitions laid down in Regulations (EC) No 178/2002 and (EC) No 1829/2003 shall apply.
2. For the purposes of this Regulation, the following definitions shall also apply:
  - (a) ‘flavourings’ shall mean products:
    - (i) not intended to be consumed as such, which are added to food in order to impart or modify odour and/or taste;
    - (ii) made or consisting of the following categories: flavouring substances, flavouring preparations, thermal process flavourings, smoke flavourings, flavour precursors or other flavourings or mixtures thereof;
  - (b) ‘flavouring substance’ shall mean a defined chemical substance with flavouring properties;
  - (c) ‘natural flavouring substance’ shall mean a flavouring substance obtained by appropriate physical, enzymatic or microbiological processes from material of vegetable, animal or microbiological origin either in the raw state or after processing for human consumption by one or more of the traditional food preparation processes listed in Annex II. Natural flavouring substances correspond to substances that are naturally present and have been identified in nature;
  - (d) ‘flavouring preparation’ shall mean a product, other than a flavouring substance, obtained from:
    - (i) food by appropriate physical, enzymatic or microbiological processes either in the raw state of the material or after processing for human consumption by one or more of the traditional food preparation processes listed in Annex II;and/or
    - (ii) material of vegetable, animal or microbiological origin, other than food, by appropriate physical, enzymatic or microbiological processes, the material being taken as such or prepared by one or more of the traditional food preparation processes listed in Annex II;
  - (e) ‘thermal process flavouring’ shall mean a product obtained after heat treatment from a mixture of ingredients not necessarily having flavouring properties themselves, of which at least one contains nitrogen (amino) and another is a reducing sugar; the ingredients for the production of thermal process flavourings may be:
    - (i) food;and/or
    - (ii) source material other than food;
  - (f) ‘smoke flavouring’ shall mean a product obtained by fractionation and purification of a condensed smoke yielding primary smoke condensates, primary tar fractions and/or derived smoke flavourings as defined in points (1), (2) and (4) of Article 3 of Regulation (EC) No 2065/2003;

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- (g) ‘flavour precursor’ shall mean a product, not necessarily having flavouring properties itself, intentionally added to food for the sole purpose of producing flavour by breaking down or reacting with other components during food processing; it may be obtained from:
- (i) food;
  - and/or
  - (ii) source material other than food;
- (h) ‘other flavouring’ shall mean a flavouring added or intended to be added to food in order to impart odour and/or taste and which does not fall under definitions (b) to (g);
- (i) ‘food ingredient with flavouring properties’ shall mean a food ingredient other than flavourings which may be added to food for the main purpose of adding flavour to it or modifying its flavour and which contributes significantly to the presence in food of certain naturally occurring undesirable substances;
- (j) ‘source material’ shall mean material of vegetable, animal, microbiological or mineral origin from which flavourings or food ingredients with flavouring properties are produced; it may be:
- (i) food;
  - or
  - (ii) source material other than food;
- (k) ‘appropriate physical process’ shall mean a physical process which does not intentionally modify the chemical nature of the components of the flavouring, without prejudice to the listing of traditional food preparation processes in Annex II, and does not involve, *inter alia*, the use of singlet oxygen, ozone, inorganic catalysts, metal catalysts, organometallic reagents and/or UV radiation.

3. For the purpose of the definitions listed in paragraph 2(d), (e), (g) and (j), source materials for which hitherto there is significant evidence of use for the production of flavourings shall be considered as food for the purpose of this Regulation.

4. Flavourings may contain food additives as permitted by Regulation (EC) No 1333/2008 and/or other food ingredients incorporated for technological purposes.

## CHAPTER II

**CONDITIONS FOR USE OF FLAVOURINGS, FOOD INGREDIENTS WITH FLAVOURING PROPERTIES AND SOURCE MATERIALS***Article 4***General conditions for use of flavourings or food ingredients with flavouring properties**

Only flavourings or food ingredients with flavouring properties which meet the following conditions may be used in or on foods:

- (a) they do not, on the basis of the scientific evidence available, pose a safety risk to the health of the consumer; and
- (b) their use does not mislead the consumer.

**▼B***Article 5***Prohibition of non-compliant flavourings and/or non-compliant food**

No person shall place on the market a flavouring or any food in which such a flavouring and/or food ingredients with flavouring properties are present if their use does not comply with this Regulation.

*Article 6***Presence of certain substances**

1. Substances listed in Part A of Annex III shall not be added as such to food.

2. Without prejudice to Regulation (EC) No 110/2008, maximum levels of certain substances, naturally present in flavourings and/or food ingredients with flavouring properties, in the compound foods listed in Part B of Annex III shall not be exceeded as a result of the use of flavourings and/or food ingredients with flavouring properties in and on those foods. The maximum levels of the substances set out in Annex III shall apply to foods as marketed, unless otherwise stated. By way of derogation from this principle, for dried and/or concentrated foods which need to be reconstituted, the maximum levels shall apply to the food as reconstituted according to the instructions on the label, taking into account the minimum dilution factor.

3. Detailed rules for the implementation of paragraph 2 may be adopted in accordance with the regulatory procedure referred to in Article 21(2), following the opinion of the European Food Safety Authority (hereinafter referred to as the 'Authority'), where necessary.

*Article 7***Use of certain source materials**

1. Source materials listed in Part A of Annex IV shall not be used for the production of flavourings and/or food ingredients with flavouring properties.

2. Flavourings and/or food ingredients with flavouring properties produced from source materials listed in Part B of Annex IV may be used only under the conditions indicated in that Annex.

*Article 8***Flavourings and food ingredients with flavouring properties for which evaluation and approval are not required**

1. The following flavourings and food ingredients with flavouring properties may be used in or on foods without an evaluation and approval under this Regulation, provided that they comply with Article 4:

(a) flavouring preparations referred to in Article 3(2)(d)(i);

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- (b) thermal process flavourings referred to in Article 3(2)(e)(i) which comply with the conditions for the production of thermal process flavourings and maximum levels for certain substances in thermal process flavourings set out in Annex V;
- (c) flavour precursors referred to in Article 3(2)(g)(i);
- (d) food ingredients with flavouring properties.

2. Notwithstanding paragraph 1, if the Commission, a Member State or the Authority expresses doubts concerning the safety of a flavouring or food ingredient with flavouring properties referred to in paragraph 1, a risk assessment of such flavouring or food ingredient with flavouring properties shall be carried out by the Authority. Articles 4, 5 and 6 of Regulation (EC) No 1331/2008 shall then apply *mutatis mutandis*. If necessary, the Commission shall adopt measures, following the opinion of the Authority, which are designed to amend non-essential elements of this Regulation, *inter alia*, by supplementing it, in accordance with the regulatory procedure with scrutiny referred to in Article 21(3). Such measures shall be laid down in Annexes III, IV and/or V where appropriate. On imperative grounds of urgency, the Commission may use the urgency procedure referred to in Article 21(4).

## CHAPTER III

COMMUNITY LIST OF FLAVOURINGS AND SOURCE MATERIALS  
APPROVED FOR USE IN OR ON FOODS*Article 9***Flavourings and source materials for which an evaluation and approval is required**

This Chapter shall apply to:

- (a) flavouring substances;
- (b) flavouring preparations referred to in Article 3(2)(d)(ii);
- (c) thermal process flavourings obtained by heating ingredients which fall partially or totally within Article 3(2)(e)(ii) and/or for which the conditions for the production of thermal process flavourings and/or the maximum levels for certain undesirable substances set out in Annex V are not met;
- (d) flavour precursors referred to in Article 3(2)(g)(ii);
- (e) other flavourings referred to in Article 3(2)(h);
- (f) source materials other than food referred to in Article 3(2)(j)(ii).

*Article 10***Community list of flavourings and source materials**

Of the flavourings and source materials referred to in Article 9, only those included in the Community list may be placed on the market as such and used in or on foods under the conditions of use specified therein, where applicable.

*Article 11***Inclusion of flavourings and source materials in the Community list**

1. A flavouring or source material may be included in the Community list, in accordance with the procedure laid down by Regulation (EC) No 1331/2008, only if it complies with the conditions set out in Article 4 of this Regulation.

2. The entry for a flavouring or source material in the Community list shall specify:

- (a) the identification of the flavouring or the source material approved;
- (b) where necessary, the conditions under which the flavouring may be used.

3. The Community list shall be amended in accordance with the procedure referred to in Regulation (EC) No 1331/2008.

*Article 12***Flavourings or source materials falling within the scope of Regulation (EC) No 1829/2003**

1. A flavouring or source material falling within the scope of Regulation (EC) No 1829/2003 may be included in the Community list in Annex I in accordance with this Regulation only when it is covered by an authorisation in accordance with Regulation (EC) No 1829/2003.

2. When a flavouring already included in the Community list is produced from a different source falling within the scope of Regulation (EC) No 1829/2003, it will not require a new authorisation under this Regulation, as long as the new source is covered by an authorisation in accordance with Regulation (EC) No 1829/2003 and the flavouring complies with the specifications established under this Regulation.

*Article 13***Interpretation decisions**

Where necessary, it may be decided in accordance with the regulatory procedure referred to in Article 21(2):

- (a) whether or not a given substance or mixture of substances, material or type of food falls within the categories listed in Article 2(1);
- (b) to which specific category, defined in Article 3(2)(b) to (j), a given substance belongs;
- (c) whether or not a particular product belongs to a food category or is a food referred to in Annex I or Annex III, Part B.



## CHAPTER IV

## LABELLING

*Article 14***Labelling of flavourings not intended for sale to the final consumer**

1. Flavourings not intended for sale to the final consumer may only be marketed with the labelling provided for in Articles 15 and 16, which must be easily visible, clearly legible and indelible. The information provided for in Article 15 shall be in a language easily understandable to purchasers.

2. Within its own territory, the Member State in which the product is marketed may, in accordance with the Treaty, stipulate that the information provided for in Article 15 shall be given in one or more of the official languages of the Community, to be determined by that Member State. This shall not preclude such information from being indicated in several languages.

*Article 15***General labelling requirements for flavourings not intended for sale to the final consumer**

1. Where flavourings not intended for sale to the final consumer are sold singly or mixed with each other and/or with other food ingredients and/or with other substances added to them in accordance with Article 3(4), their packaging or containers shall bear the following information:

- (a) the sales description: either the word 'flavouring' or a more specific name or description of the flavouring;
- (b) the statement either 'for food' or the statement 'restricted use in food' or a more specific reference to its intended food use;
- (c) if necessary, the special conditions for storage and/or use;
- (d) a mark identifying the batch or lot;
- (e) in descending order of weight, a list of:
  - (i) the categories of flavourings present and
  - (ii) the names of each of the other substances or materials in the product or, where appropriate, their E-number;
- (f) the name or business name and address of the manufacturer, packager or seller;
- (g) an indication of the maximum quantity of each component or group of components subject to quantitative limitation in food and/or appropriate information in clear and easily understandable terms enabling the purchaser to comply with this Regulation or other relevant Community law;
- (h) the net quantity;
- (i) a date of minimum durability or use-by-date;
- (j) where relevant, information on a flavouring or other substances referred to in this Article and listed in Annex IIIa to Directive 2000/13/EC as regards the indication of the ingredients present in foodstuffs.



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2. By way of derogation from paragraph 1, the information required in points (e) and (g) of that paragraph may appear merely on the documents relating to the consignment which are to be supplied with or prior to the delivery, provided that the indication ‘not for retail sale’ appears on an easily visible part of the packaging or container of the product in question.

3. By way of derogation from paragraph 1, where flavourings are supplied in tankers, all of the information may appear merely on the accompanying documents relating to the consignment which are to be supplied with the delivery.

*Article 16***Specific requirements for use of the term ‘natural’**

1. If the term ‘natural’ is used to describe a flavouring in the sales description referred to in Article 15(1)(a) the provisions of paragraphs 2 to 6 of this Article shall apply.

2. The term ‘natural’ for the description of a flavouring may only be used if the flavouring component comprises only flavouring preparations and/or natural flavouring substances.

3. The term ‘natural flavouring substance(s)’ may only be used for flavourings in which the flavouring component contains exclusively natural flavouring substances.

4. The term ‘natural’ may only be used in combination with a reference to a food, food category or a vegetable or animal flavouring source if the flavouring component has been obtained exclusively or by at least 95 % by w/w from the source material referred to.

The description shall read ‘natural “food(s) or food category or source(s)” flavouring’.

5. The term ‘natural “food(s) or food category or source(s)” flavouring with other natural flavourings’ may only be used if the flavouring component is partially derived from the source material referred to, the flavour of which can easily be recognised.

6. The term ‘natural flavouring’ may only be used if the flavouring component is derived from different source materials and where a reference to the source materials would not reflect their flavour or taste.

*Article 17***Labelling of flavourings intended for sale to the final consumer**

1. Without prejudice to Directive 2000/13/EC, Council Directive 89/396/EEC of 14 June 1989 on indications or marks identifying the lot to which a foodstuff belongs <sup>(1)</sup> and Regulation (EC) No 1829/2003, flavourings sold singly or mixed with each other and/or with other food ingredients and/or to which other substances are added and which are intended for sale to the final consumer may be marketed only if their packaging contains the statement either ‘for food’ or ‘restricted use in food’ or a more specific reference to their intended food use, which must be easily visible, clearly legible and indelible.

<sup>(1)</sup> OJ L 186, 30.6.1989, p. 21.

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2. If the term ‘natural’ is used to describe a flavouring in the sales description referred to in Article 15(1)(a), Article 16 shall apply.

*Article 18***Other labelling requirements**

Articles 14 to 17 shall be without prejudice to more detailed or more extensive laws, regulations or administrative provisions regarding weights and measures or applying to the presentation, classification, packaging and labelling of dangerous substances and preparations or applying to the transport of such substances and preparations.

## CHAPTER V

**PROCEDURAL PROVISIONS AND IMPLEMENTATION***Article 19***Reporting by the food business operators**

1. A producer or user of a flavouring substance, or the representative of such producer or user, shall, at the request of the Commission, inform it of the amount of the substance added to foods in the Community in a period of 12 months. The information provided in this context shall be treated as confidential insofar as this information is not required for the safety assessment.

Information on the use levels for specific food categories in the Community shall be made available to Member States by the Commission.

2. Where applicable, for a flavouring already approved under this Regulation which is prepared by production methods or starting materials significantly different from those included in the risk assessment of the Authority, a producer or user shall, before marketing the flavouring, submit to the Commission the necessary data to allow an evaluation of the flavouring to be undertaken by the Authority with regard to the modified production method or characteristics.

3. A producer or user of flavourings and/or source materials shall inform the Commission immediately of any new scientific or technical information which is known and accessible to him and which might affect the assessment of the safety of the flavouring substance.

4. Detailed rules for the implementation of paragraph 1 shall be adopted in accordance with the regulatory procedure referred to in Article 21(2).

*Article 20***Monitoring and reporting by the Member States**

1. Member States shall establish systems to monitor the consumption and use of flavourings set out in the Community list and the consumption of the substances listed in Annex III on a risk-based approach, and shall report their findings with appropriate frequency to the Commission and to the Authority.

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2. After the Authority has been consulted, a common methodology for the gathering by Member States of information on the consumption and use of flavourings set out in the Community list and of the substances listed in Annex III shall be adopted in accordance with the regulatory procedure referred to in Article 21(2) by 20 January 2011.

*Article 21***Committee**

1. The Commission shall be assisted by the Standing Committee on the Food Chain and Animal Health.

2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

3. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

4. Where reference is made to this paragraph, Article 5a(1), (2), (4) and (6) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

*Article 22***Amendments to Annexes II to V**

Amendments to Annexes II to V to this Regulation to reflect scientific and technical progress which are designed to amend non-essential elements of this Regulation shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 21(3), following the opinion of the Authority, where necessary.

On imperative grounds of urgency, the Commission may use the urgency procedure referred to in Article 21(4).

*Article 23***Community financing of harmonised policies**

The legal basis for the financing of measures resulting from this Regulation shall be Article 66(1)(c) of Regulation (EC) No 882/2004.

## CHAPTER VI

**TRANSITIONAL AND FINAL PROVISIONS***Article 24***Repeals**

1. Directive 88/388/EEC, Decision 88/389/EEC and Directive 91/71/EEC shall be repealed from 20 January 2011.

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2. Regulation (EC) No 2232/96 shall be repealed from the date of application of the list referred to in Article 2(2) of that Regulation.
3. References to the repealed acts shall be construed as references to this Regulation.

*Article 25***Introduction of the list of flavouring substances into the Community list of flavourings and source materials and transitional regime**

1. The Community list shall be established by introducing the list of flavouring substances referred to in Article 2(2) of Regulation (EC) No 2232/96 into Annex I to this Regulation at the time of its adoption.
2. Pending the establishment of the Community list, Regulation (EC) No 1331/2008 shall apply for the evaluation and approval of flavouring substances which are not covered by the evaluation programme provided for in Article 4 of Regulation (EC) No 2232/96.

By way of derogation from that procedure, the period of nine months referred to in Article 5(1) and Article 7 of Regulation (EC) No 1331/2008 shall not apply to such evaluation and approval.

3. Any appropriate transitional measures which are designed to amend non-essential elements of this Regulation, *inter alia*, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 21(3).

*Article 26***Amendments to Regulation (EEC) No 1601/91**

Article 2(1) is hereby amended as follows:

1. in point (a), the first sub-indent of the third indent shall be replaced by the following:

‘— flavouring substances and/or flavouring preparations as defined in Article 3(2)(b) and (d) of Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods (\*), and/or

(\*) OJ L 354, 31.12.2008, p. 34.’

2. in point (b), the first sub-indent of the second indent shall be replaced by the following:

‘— flavouring substances and/or flavouring preparations as defined in Article 3(2)(b) and (d) of Regulation (EC) No 1334/2008, and/or’;

3. in point (c), the first sub-indent of the second indent shall be replaced by the following:

‘— flavouring substances and/or flavouring preparations as defined in Article 3(2)(b) and (d) of Regulation (EC) No 1334/2008, and/or’.

**▼B***Article 27***Amendment to Regulation (EC) No 2232/96**

Article 5(1) of Regulation (EC) No 2232/96 shall be replaced by the following:

- ‘1. The list of flavouring substances referred to in Article 2(2) shall be adopted in accordance with the procedure referred to in Article 7 by 31 December 2010 at the latest.’.

*Article 28***Amendments to Regulation (EC) No 110/2008**

Regulation (EC) No 110/2008 is hereby amended as follows:

1. in Article 5(2), point (c) shall be replaced by the following:

‘(c) contain flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods (\*) and flavouring preparations as defined in Article 3(2)(d) of that Regulation;

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(\*) OJ L 354, 31.12.2008, p. 34.’

2. in Article 5(3), point (c) shall be replaced by the following:

‘(c) contain one or more flavourings as defined in Article 3(2)(a) of Regulation (EC) No 1334/2008;’;

3. in Annex I, point (9) shall be replaced by the following:

‘(9) *Flavouring*

Flavouring means using in the preparation of a spirit drink one or more of the flavourings defined in Article 3(2)(a) of Regulation (EC) No 1334/2008.’;

4. Annex II shall be amended as follows:

- (a) paragraph 19(c) shall be replaced by the following:

‘(c) Other flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 and/or flavouring preparations as defined in Article 3(2)(d) of that Regulation, and/or aromatic plants or parts of aromatic plants may be used in addition, but the organoleptic characteristics of juniper must be discernible, even if they are sometimes attenuated.’;

- (b) paragraph 20(c) shall be replaced by the following:

‘(c) Only flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 and/or flavouring preparations as defined in Article 3(2)(d) of that Regulation shall be used for the production of gin so that the taste is predominantly that of juniper.’;

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(c) paragraph 21(a) (ii) shall be replaced by the following:

‘(ii) the mixture of the product of such distillation and ethyl alcohol of agricultural origin with the same composition, purity and alcoholic strength; flavouring substances and/or flavouring preparations as specified in category 20(c) may also be used to flavour distilled gin.’;

(d) paragraph 23(c) shall be replaced by the following:

‘(c) Other flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 and/or flavouring preparations as defined in Article 3(2)(d) of that Regulation may additionally be used but there must be a predominant taste of caraway.’;

(e) paragraph 24(c) shall be replaced by the following:

‘(c) Other natural flavouring substances as defined in Article 3(2)(c) of Regulation (EC) No 1334/2008 and/or flavouring preparations as defined in Article 3(2)(d) of that Regulation may additionally be used, but the flavour of these drinks is largely attributable to distillates of caraway (*Carum carvi* L.) and/or dill (*Anethum graveolens* L.) seeds, the use of essential oils being prohibited.’;

(f) paragraph 30(a) shall be replaced by the following:

‘(a) Bitter-tasting spirit drinks or bitter are spirit drinks with a predominantly bitter taste produced by flavouring ethyl alcohol of agricultural origin with flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 and/or flavouring preparations as defined in Article 3(2)(d) of that Regulation.’;

(g) in paragraph 32(c), the first subparagraph and the introductory part of the second subparagraph shall be replaced by the following:

‘(c) Flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 and flavouring preparations as defined in Article 3(2)(d) of that Regulation may be used in the preparation of liqueur. However, only natural flavouring substances as defined in Article 3(2)(c) of Regulation (EC) No 1334/2008 and flavouring preparations as defined in Article 3(2)(d) of that Regulation shall be used in the preparation of the following liqueurs.’;

(h) paragraph 41(c) shall be replaced by the following:

‘(c) Only flavouring substances as defined in Article 3(2)(b) of Regulation (EC) No 1334/2008 and flavouring preparations as defined in Article 3(2)(d) of that Regulation may be used in the preparation of egg liqueur or advocaat or avocat or advokat.’;

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(i) paragraph 44(a) shall be replaced by the following:

‘(a) Vákevā glögi or spritglögg is a spirit drink produced by flavouring ethyl alcohol of agricultural origin with flavour of cloves and/or cinnamon using one of the following processes: maceration and/or distillation, redistillation of the alcohol in the presence of parts of the plants specified above, addition of natural flavouring substances as defined in Article 3(2)(c) of Regulation (EC) No 1334/2008 of cloves or cinnamon or a combination of these methods.’;

(j) paragraph 44(c) shall be replaced by the following:

‘(c) Other flavourings, flavouring substances and/or flavouring preparations as defined in Article 3(2)(b), (d) and (h) of Regulation (EC) No 1334/2008 may also be used, but the flavour of the specified spices must be predominant.’;

(k) In point (c) of paragraphs 25, 26, 27, 28, 29, 33, 34, 35, 36, 37, 38, 39, 40, 42, 43, 45 and 46, the word ‘preparations’ shall be replaced by ‘flavouring preparations’.

*Article 29*

**Amendment to Directive 2000/13/EC**

In Directive 2000/13/EC, Annex III shall be replaced by the following:

*‘ANNEX III*

**DESIGNATION OF FLAVOURINGS IN THE LIST OF INGREDIENTS**

1. Without prejudice to paragraph 2, flavourings shall be designated by the terms

— “flavourings” or a more specific name or description of the flavouring, if the flavouring component contains flavourings as defined in Article 3(2)(b), (c), (d), (e), (f), (g) and (h) of Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods (\*);

— “smoke flavouring(s)”, or ‘smoke flavouring(s) produced from “food(s) or food category or source(s)”’ (e.g. smoke flavouring produced from beech), if the flavouring component contains flavourings as defined in Article 3(2)(f) of Regulation (EC) No 1334/2008 and imparts a smoky flavour to the food.

2. The term ‘natural’ for the description of flavourings shall be used in accordance with Article 16 of Regulation (EC) No 1334/2008.

(\*) OJ L 354, 31.12.2008, p. 34.’

**▼B**

*Article 30*

**Entry into force**

This Regulation shall enter into force on the 20th day following its publication in the *Official Journal of the European Union*.

It shall apply from 20 January 2011.

Article 10 shall apply from 18 months after the date of application of the Community list.

Articles 26 and 28 shall apply from the date of application of the Community list.

Article 22 shall apply from 20 January 2009. Foods lawfully placed on the market or labelled prior to 20 January 2011 which do not comply with this Regulation may be marketed until their date of minimum durability or use-by-date.

This Regulation shall be binding in its entirety and directly applicable in all Member States.



**▼B***ANNEX I***▼M1****UNION LIST OF FLAVOURINGS AND SOURCE MATERIALS****PART A****Union list of flavouring substances***SECTION 1**Content of the list*

Table 1 contains the following information:

Column 1 (FL No.): the unique identification number of the substance

Column 2 (Chemical Name): the name of the substance

Column 3 (CAS No): the Chemical Abstracts Service (CAS) registry number

Column 4 (JECFA No.): The Joint FAO/WHO Expert Committee on Food additives (JECFA) number

Column 5 (CoE No.): The Council of Europe (CoE) number

Column 6 (Purity of the named substance at least 95% unless otherwise specified): The purity of the named flavouring substance has to be at least 95%. If less, the composition of the flavouring substances is given in this column.

Column 7 (Restrictions of Use): The use of flavouring substances is permitted in accordance with good manufacturing practices unless specific restriction is given in this column. Flavouring substances with restrictions of use may only be added to the listed food categories and under the specified conditions of use. For the purpose of the restrictions the following food categories, as laid down in Annex II of Regulation (EC) No 1333/2008, shall be referred to:

Category number	Food category
1	Dairy products and analogues
2	Fats and oils and fat and oil emulsions
3	Edible ices
4.2	Processed fruit and vegetables
5	Confectionery
5.3	Chewing gum
6	Cereals and cereal products
7	Bakery wares
8	Meat
9	Fish and fisheries products
10	Eggs and egg products
11	Sugars, syrups, honey and table-top sweeteners
12	Salts, spices, soups, sauces, salads and protein products
13	Food intended for particular nutritional uses as defined by Directive 2009/39/EC (1)
14.1	Non-alcoholic beverages

▼ **M1**

Category number	Food category
14.2	Alcoholic beverages, including alcohol-free and low-alcoholic counterparts
15	Ready-to-eat savouries and snacks
16	Desserts excluding products covered in category 1, 3 and 4
17	Food supplements as defined in Directive 2002/46/EC <sup>(2)</sup> of the European Parliament and of the Council excluding food supplements for infants and young children
18	Processed food not covered by categories 1-17, excluding foods for infants and young children

<sup>(1)</sup> OJ L 124, 20.5.2009, p. 21.

<sup>(2)</sup> OJ L 183, 12.7.2002, p. 51.

Column 8 (Footnotes): The footnote '1' is allocated to the flavouring substances for which the evaluation has to be completed by the Authority. The footnotes '2' to '4' refer to time limits set for the applicants to comply with the Authority's requests as expressed in the published opinions. Where the necessary information is not provided by the time requested, the flavouring substance in question will be withdrawn from the Union list. The Authority shall evaluate the submitted data within 9 months from the receipt of such data. Substances which have already been evaluated by JECFA can be recognised from the JECFA number listed in column 4.

- <sup>(1)</sup> evaluation to be completed by the Authority
- <sup>(2)</sup> additional scientific data shall be submitted by 31 December 2012
- <sup>(3)</sup> additional scientific data shall be submitted by 30 June 2013
- <sup>(4)</sup> additional scientific data shall be submitted by 31 December 2013

Column 9 (Reference): Reference to the scientific body that has carried out the evaluation.

## SECTION 2

### Notes

*Note 1:* Ammonium, sodium, potassium and calcium salts as well as chlorides, carbonates and sulphates are covered by the generic substances, providing that they have flavouring properties.

*Note 2:* If the authorised flavouring substance is a racemate (an equal mixture of optical isomers), both the R- and S- form shall also be authorised for use. If only the R-form has been authorised then the S-form is not covered by this authorisation and vice versa.

*Note 3:* Maximum levels refer to levels in or on food as marketed. By way of derogation from that principle, for dried and/or concentrated foods which need to be reconstituted the maximum levels shall apply to the food as reconstituted according to the instructions in the labelling taking into account the minimum dilution factor.

*Note 4:* The presence of a flavouring substance shall be permitted:

- (a) in a compound food other than as referred to in the Annex, where the flavouring substance is permitted in one of the ingredients of the compound food;
- (b) in a food which is to be used solely in the preparation of a compound food and provided that the compound food complies with this Regulation.

Table 1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
01.001	Limonene	138-86-3		491				EFSA
01.002	1-Isopropyl-4-methylbenzene	99-87-6	1325	620				EFSA
01.003	Pin-2(10)-ene	127-91-3	1330	2114			2	EFSA
01.004	Pin-2(3)-ene	80-56-8	1329	2113			2	EFSA
01.005	Terpinolene	586-62-9	1331	2115				EFSA
01.006	alpha-Phellandrene	99-83-2	1328	2117	At least 85%; secondary components 10-12% cymene and other terpene hydrocarbons			EFSA
01.007	beta-Caryophyllene	87-44-5	1324	2118	80-92% beta-caryophyllene and 15-19% C <sub>15</sub> H <sub>24</sub> terpene hydrocarbons (eg. valencene)		2	EFSA
01.008	Myrcene	123-35-3	1327	2197	At least 90%; secondary components C <sub>15</sub> H <sub>24</sub> terpene hydrocarbons (eg. valencene); Minimum assay value may include traces of limonene, alpha- and beta-pinene and other common C <sub>10</sub> H <sub>16</sub> terpenes.		4	EFSA
01.009	Camphene	79-92-5	1323	2227	At least 80%; secondary components 15-19% C <sub>15</sub> H <sub>24</sub> terpene hydrocarbons (eg. valencene)		2	EFSA
01.010	1-Isopropenyl-4-methylbenzene	1195-32-0	1333	2260				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
_____								
_____								
01.016	1,4(8),12-Bisabolatriene	495-62-5	1336	10979				EFSA
01.017	Valencene	4630-07-3	1337	11030	At least 94%; secondary components 1-4% other C <sub>15</sub> H <sub>24</sub> sesquiterpenes		2	EFSA
01.018	beta-Ocimene	13877-91-3	1338	11015	At least 80%; secondary component 15-17% cis-beta-ocimene		4	EFSA
01.019	alpha-Terpinene	99-86-5	1339	11023	At least 89%; secondary components 6-7% 1,4- and 1,8-cineole			EFSA
01.020	gamma-Terpinene	99-85-4	1340	11025				EFSA
01.024	beta-Bourbonene	5208-59-3	1345	11931			2	EFSA
01.026	1(5),7(11)-Guaiadiene	88-84-6	1347				2	EFSA
01.027	Bisabola-1,8,12-triene	17627-44-0						EFSA
01.028	beta-Bisabolene	495-61-4						EFSA
01.029	delta-3-Carene	13466-78-9	1342	10983	At least 92%; secondary components 2-3% beta-pinene; 1-2% limonene; 1-2% myrcene; 0-1% p-cymene		2	EFSA
01.033	2,2-Dimethylhexane	590-73-8						EFSA
01.034	2,4-Dimethylhexane	589-43-5						EFSA
01.035	2,6-Dimethylocta-2,4,6-triene	673-84-7					2	EFSA
01.038	Dodecane	112-40-3						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
01.039	delta-Elemene	20307-84-0		10996				EFSA
01.040	alpha-Farnesene	502-61-4	1343	10998	At least 38% alpha and 29% beta (sum of cis/trans isomers); secondary components 20% bisabolene, up to 10% other isomers (valencene, bourbonene, cadinene, guaiene)		4	EFSA
01.045	d-Limonene	5989-27-5	1326	491				EFSA
01.046	l-Limonene	5989-54-8		491				EFSA
01.054	Pentadecane	629-62-9						EFSA
01.057	Tetradecane	629-59-4						EFSA
01.059	4(10)-Thujene	3387-41-5		11018			2	EFSA
01.061	Undeca-1,3,5-triene	16356-11-9	1341		At least 94% (sum of cis/trans isomers); secondary component 2,4,6-undecatriene (Z,Z,E)		4	EFSA
01.064	cis-3,7-Dimethyl-1,3,6-octatriene	3338-55-4					2	EFSA
01.070	1-Octene	111-66-0					2	EFSA
01.077	1-Methyl-1,3-cyclohexadiene	1489-56-1	1344					EFSA
02.001	2-Methylpropan-1-ol	78-83-1	251	49				JECFA
02.002	Propan-1-ol	71-23-8	82	50				JECFA
02.003	Isopentanol	123-51-3	52	51				JECFA
02.004	Butan-1-ol	71-36-3	85	52				JECFA
02.005	Hexan-1-ol	111-27-3	91	53				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.006	Octan-1-ol	111-87-5	97	54				JECFA
02.007	Nonan-1-ol	143-08-8	100	55				JECFA
02.008	Dodecan-1-ol	112-53-8	109	56				JECFA
02.009	Hexadecan-1-ol	36653-82-4	114	57				JECFA
02.010	Benzyl alcohol	100-51-6	25	58				EFSA
02.011	Citronellol	106-22-9	1219	59	At least 90%; secondary components 5-8% di-unsaturated and saturated C10 alcohols, 1% citronellyl acetate, 1% citronellal			EFSA
02.012	Geraniol	106-24-1	1223	60				EFSA
02.013	Linalool	78-70-6	356	61				JECFA
02.014	alpha-Terpineol	98-55-5	366	62				JECFA
02.015	Menthol	89-78-1	427	63				JECFA
02.016	DL-Borneol	507-70-0	1385	64				EFSA
02.017	Cinnamyl alcohol	104-54-1	647	65				EFSA
02.018	Nerolidol	7212-44-4	1646	67				EFSA
02.019	2-Phenylethan-1-ol	60-12-8	987	68				EFSA
02.020	Hex-2-en-1-ol	2305-21-7	1354				2	EFSA
02.021	Heptan-1-ol	111-70-6	94	70				JECFA
02.022	Octan-2-ol	123-96-6	289	71				JECFA
02.023	Oct-1-en-3-ol	3391-86-4	1152				1	EFSA
02.024	Decan-1-ol	112-30-1	103	73				JECFA
02.026	3,7-Dimethyloctan-1-ol	106-21-8	272	75	At least 90%; secondary components 5-7% geraniol and citronellol			JECFA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.027	(-)-Rhodinol	6812-78-8	1222	76				EFSA
02.028	3,7-Dimethyloctan-3-ol	78-69-3	357	77				JECFA
02.029	3,7,11-Trimethyldodeca-2,6,10-trien-1-ol	4602-84-0	1230	78				EFSA
02.030	alpha-Pentylcinnamyl alcohol	101-85-9	674	79				EFSA
02.031	3-Phenylpropan-1-ol	122-97-4	636	80				EFSA
02.033	1-Phenylpropan-1-ol	93-54-9	822	82				EFSA
02.034	1-Phenylpentan-2-ol	705-73-7	825	83				EFSA
02.035	2-Methyl-1-phenylpropan-2-ol	100-86-7	1653	84				EFSA
02.036	4-Phenylbutan-2-ol	2344-70-9	815	85				EFSA
02.037	3-Methyl-1-phenylpentan-3-ol	10415-87-9	1649	86				EFSA
02.038	Fenchyl alcohol	1632-73-1	1397	87				EFSA
02.039	4-Isopropylbenzyl alcohol	536-60-7	864	88				EFSA
02.040	Pentan-1-ol	71-41-0	88	514				JECFA
02.041	2-Methylbutan-2-ol	75-85-4		515				EFSA
02.042	2-(4-Methylphenyl)propan-2-ol	1197-01-9	1650	530	At least 90%; secondary component 9-11% p-isopropenyltoluene			EFSA
02.043	2-Ethylbutan-1-ol	97-95-0		543				SCF/CoE
02.044	Heptan-3-ol	589-82-2	286	544				JECFA
02.045	Heptan-2-ol	543-49-7	284	554				JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.047	3,7-Dimethyloctane-1,7-diol	107-74-4	610	559				JECFA
02.049	Nona-2,6-dien-1-ol	7786-44-9	1184	589			2	EFSA
02.050	Pent-2-en-1-ol	20273-24-9	1793	665			2	EFSA
02.051	5-Phenylpentan-1-ol	10521-91-2	675	674				EFSA
02.052	2-Methylpropan-2-ol	75-65-0		698				EFSA
02.054	p-Menthane-1,8-diol	80-53-5		701				EFSA
02.055	3,5,5-Trimethylhexan-1-ol	3452-97-9	268	702				JECFA
02.056	Hex-3(cis)-en-1-ol	928-96-1	315	750c				JECFA
02.057	Undecan-1-ol	112-42-5	106	751				JECFA
02.058	(Z)-Nerol	106-25-2	1224	2018				EFSA
02.059	DL-Isoborneol	124-76-5	1386	2020	At least 92%; secondary component 3-5% borneol			EFSA
▼ <b>M14</b> 02.060	p-Mentha-1,8-dien-7-ol	536-59-4	974	2024		In categories 1, 3, 4.2, 5 (except category 5.3), 6, 7, 14.1, 14.2 and 16	1	EFSA
▼ <b>M1</b> 02.061	Dihydrocarveol	619-01-2	378	2025				JECFA
02.062	Carveol	99-48-9	381	2027				JECFA
02.063	d-Neomenthol	2216-52-6	428	2028				JECFA
02.064	1-Phenylethan-1-ol	98-85-1	799	2030				EFSA
02.065	4-Methyl-1-phenylpentan-2-ol	7779-78-4	827	2031				EFSA
02.066	4-Phenylbut-3-en-2-ol	17488-65-2	819				2	EFSA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.067	1R,2S,5R-isopulegol	89-79-2	755	2033			4	EFSA
02.070	Cyclohexanol	108-93-0		2138				EFSA
02.071	p-Menthan-2-ol	499-69-4	376	2228				JECFA
02.072	4-Terpinenol	562-74-3	439	2229				JECFA
02.073	2-Phenylpropan-1-ol	1123-85-9	1459	2257				EFSA
02.074	Hex-4-en-1-ol	6126-50-7	318	2295				JECFA
02.075	(1R,2S,5S)-neo-Dihydro-carveol	18675-33-7		2296				EFSA
02.076	2-Methylbutan-1-ol	137-32-6	1199	2346				EFSA
02.077	Pentan-3-ol	584-02-1		2349				EFSA
02.078	Ethanol	64-17-5	41	11891				JECFA
02.079	Isopropanol	67-63-0	277					JECFA
02.080	1-(p-Tolyl)ethan-1-ol	536-50-5	805	10197				EFSA
02.081	2,6-Dimethylheptan-4-ol	108-82-7	303	11719	At least 90%; secondary component 8-9% 2-heptanol			JECFA
02.082	2-Ethylhexan-1-ol	104-76-7	267	11763				JECFA
02.083	p-Menth-1-en-3-ol	491-04-3	434	10248				JECFA
02.085	Sabinene hydrate	546-79-2	441	10309				JECFA
02.086	Undecan-2-ol	1653-30-1	297	11826				JECFA
02.087	Nonan-2-ol	628-99-9	293	11803				JECFA
02.088	Pentan-2-ol	6032-29-7	280	11696				JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.089	Hexan-3-ol	623-37-0	282	11775				JECFA
02.090	Non-2(trans)-en-1-ol	31502-14-4	1365	10292			2	EFSA
▼ <b>M14</b> 02.091	Myrtenol	515-00-4	981	10285		In categories 1, 3, 5, 6, 14.1, 14.2, 15 and 16	1	EFSA
▼ <b>M1</b> 02.092	Dehydrodihydroionol	57069-86-0	397	10195	At least 70%; secondary component 25-27% tetrahydroionone			JECFA
▼ <b>M3</b> 02.093	(Z)-Non-6-en-1-ol	35854-86-5	324	10294				JECFA
▼ <b>M1</b> 02.094	Oct-3-en-1-ol	20125-84-2	321	10296				JECFA
02.095	2-Ethylfenchol	18368-91-7	440	10208				JECFA
02.096	1-Terpinenol	586-82-3	373	10252				JECFA
02.097	beta-Terpineol	138-87-4	374	10254				JECFA
02.098	Octan-3-ol	589-98-0	291	11715				JECFA
02.099	Pent-1-en-3-ol	616-25-1	1150	11717			1	EFSA
02.100	Pinocarveol	5947-36-4	1403	10303				EFSA
02.101	Pin-2-en-4-ol	473-67-6	1404	10304				EFSA
02.102	Oct-3-en-2-ol	76649-14-4	1140				1	EFSA
02.103	Decan-3-ol	1565-81-7	295	10194				JECFA
02.104	Hex-1-en-3-ol	4798-44-1	1151	10220			1	EFSA
02.105	4-(2,6,6-Trimethyl-2-cyclohexenyl)but-3-en-2-ol	25312-34-9	391				2	JECFA
02.106	4-(2,2,6-Trimethyl-1-cyclohexenyl)but-3-en-2-ol	22029-76-1	392		At least 92%; secondary components 3-8% ionol and ionone		2	JECFA
02.107	Dihydro-beta-ionol	3293-47-8	395					JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.108	2-Methyl-4-phenylbutan-2-ol	103-05-9	1477	10281				EFSA
02.109	3-Methylbut-2-en-1-ol	556-82-1	1200	11795				EFSA
▼ <b>M3</b>								
02.110	2,6-Dimethylhept-6-en-1-ol	36806-46-9	348		At least 90 %; secondary component 5-10 % 2,6-dimethyl-5-hepten-1-ol			JECFA
▼ <b>M1</b>								
02.111	3-Methylbutan-2-ol	598-75-4	300					JECFA
02.112	Non-2(cis)-en-1-ol	41453-56-9	1369	10292			2	EFSA
02.113	Oct-5(cis)-en-1-ol	64275-73-6	322		At least 90%; secondary component 7-9% trans-5-octen-1-ol			JECFA
02.114	2-(2,2,3-Trimethylcyclopent-3-enyl)ethan-1-ol	1901-38-8	970					EFSA
02.115	3-Methylpentan-1-ol	589-35-5	263	10275				JECFA
02.119	Cedrenol	28231-03-0		10189				EFSA
02.120	(+)-Cedrol	77-53-2		10190				EFSA
02.121	Butan-2-ol	78-92-2		11735				SCF/CoE
▼ <b>M4</b>								
▼ <b>M1</b>								
02.123	2-Methylbut-3-en-2-ol	115-18-4		11794				EFSA
02.124	6-Methylhept-5-en-2-ol	1569-60-4		10264				EFSA
02.125	Undec-10-en-1-ol	112-43-6		10319				EFSA
02.126	Tetradecan-1-ol	112-72-1		10314				EFSA
02.128	p-Anisyl alcohol	105-13-5	871	66				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.129	(l)-alpha-Bisabolol	23089-26-1		10178	Sum of isomers at least 95%			EFSA
02.131	But-3-en-2-ol	598-32-3					1	EFSA
02.132	Butane-1,3-diol	107-88-0						EFSA
02.133	Butane-2,3-diol	513-85-9		10181				EFSA
02.134	2-Cyclohexylethan-1-ol	4442-79-9						EFSA
02.135	Cyclopentanol	96-41-3		10193				EFSA
02.136	Dec-1-en-3-ol	51100-54-0	1153				1	EFSA
02.137	Dec-2-en-1-ol	22104-80-9	1794	11750			2	EFSA
02.138	Dec-9-en-1-ol	13019-22-2						EFSA
▼ <b>M15</b> 02.139	Deca-2,4-dien-1-ol	18409-21-7	1189	11748		Restrictions of use as a flavouring substance:  In category 2 — not more than 1,5 mg/kg, in category 3 — not more than 5 mg/kg, in category 5 — not more than 9 mg/kg, in category 7 — not more than 15 mg/kg, in category 8 — not more than 5 mg/kg, in category 12 — not more than 3 mg/kg, in category 14.1 — not more than 2 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 16 — not more than 2 mg/kg.	1	EFSA
▼ <b>M1</b> 02.140	1,2-Dihydrolinalool	2270-57-7						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.141	2-(6,6-Dimethyl-bicyclo[3.1.1]hept-2-en-2-yl)ethan-1-ol	128-50-7	986					EFSA
02.142	3,3-Dimethylbutan-2-ol	464-07-3						EFSA
02.144	2,6-Dimethyloct-7-en-2-ol	18479-58-8						EFSA
▼ <b>M3</b>								
02.145	2,6-Dimethylocta-1,5,7-trien-3-ol	29414-56-0						EFSA
▼ <b>M1</b>								
02.146	(E)-3,7-Dimethylocta-1,5,7-trien-3-ol	53834-70-1		10202	At least 93%; secondary components 2-3% linalool, 1-2% linalool oxide and up to 1% nerol oxide		4	EFSA
02.147	3,6-Dimethyloctan-3-ol	151-19-9						EFSA
02.148	Dodecan-2-ol	10203-28-8		11760				EFSA
02.149	(-)-alpha-Elemol	639-99-6		10205				EFSA
02.150	(E,E)-geranyl linalool	1113-21-9						EFSA
02.152	Hept-3-en-1-ol	10606-47-0		10219				EFSA
▼ <b>M15</b>								
02.153	Hepta-2,4-dien-1-ol	33467-79-7	1784			Restrictions of use as a flavouring substance: In category 1 — not more than 35 mg/kg, in category 2 — not more than 25 mg/kg, in category 3 — not more than 30 mg/kg, in category 4.2 — not more than 50 mg/kg, in category 5 — not more than 50 mg/kg,	1	EFSA

▼ **M15**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						in category 6 — not more than 25 mg/kg, in category 7 — not more than 50 mg/kg, in category 8 — not more than 10 mg/kg, in category 9 — not more than 10 mg/kg, in category 12 — not more than 100 mg/kg, in category 14.1 — not more than 25 mg/kg, in category 15 — not more than 50 mg/kg, in category 16 — not more than 25 mg/kg.		
02.154	Heptadecan-1-ol	1454-85-9						EFSA
02.155	1-Hepten-3-ol	4938-52-7	1842	10218			1	EFSA
02.156	Hex-2(cis)-en-1-ol	928-94-9	1374	69	At least 92%; secondary component 3-4% hex-2(trans)-en-1-ol		2	EFSA
02.159	Hex-3-en-1-ol	544-12-7	315	750				SCF/CoE
02.162	Hexa-2,4-dien-1-ol	111-28-4	1174			Restrictions of use as a flavouring substance: In category 3 — not more than 4 mg/kg, in category 4.2 — not more than 2 mg/kg, in category 5 — not more than 2 mg/kg, in category 12 — not more than 4 mg/kg,	1	EFSA

▼ **M1**▼ **M15**

▼ **M15**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						in category 14.1 — not more than 4 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 1 mg/kg, in category 16 — not more than 2 mg/kg.		

▼ **M1**

02.164	4-Hydroxy-3,5-dimethoxybenzyl alcohol	530-56-3						EFSA
02.165	4-Hydroxybenzyl alcohol	623-05-2	955					EFSA
02.166	2-(4-Hydroxyphenyl)ethanol	501-94-0		10226				EFSA
02.167	(1R,2R,5S)-Isodihydrocarveol	18675-35-9						EFSA
02.168	Isophytol	505-32-8		10233				EFSA
02.170	(R)-(-)-Lavandulol	498-16-8						EFSA
02.171	p-Menthan-8-ol	498-81-7						EFSA
02.173	3-(4-Methoxyphenyl)propan-1-ol	5406-18-8						EFSA
02.174	2-Methylbut-2-en-1-ol	4675-87-0		10258			1	EFSA
02.175	2-Methylbut-3-en-1-ol	4516-90-9		10259				EFSA
02.176	3-Methylbut-3-en-1-ol	763-32-6		10260				EFSA
02.177	2-Methylhexan-3-ol	617-29-8		10266				EFSA
02.178	2-Methyloctan-1-ol	818-81-5						EFSA
02.180	4-Methylpentan-1-ol	626-89-1		10278				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.181	2-Methylpentan-2-ol	590-36-3		10274				EFSA
02.182	3-Methylpentan-2-ol	565-60-6		10276				EFSA
02.183	4-Methylpentan-2-ol	108-11-2		10279				EFSA
02.184	3-Methylpentan-3-ol	77-74-7		10277				EFSA
02.186	Myrtanol	514-99-8						EFSA
02.187	Non-1-en-3-ol	21964-44-3		10291			1	EFSA

▼ **M15**

02.188	Nona-2,4-dien-1-ol	62488-56-6	1183	11802	At least 92 %; secondary component 3-4 % 2-nonen-1-ol	Restrictions of use as a flavouring substance:  In category 1 — not more than 2 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 5 mg/kg, in category 4.2 — not more than 5 mg/kg, in category 5 — not more than 10 mg/kg, in category 6 — not more than 1 mg/kg, in category 7 — not more than 14,5 mg/kg, in category 8 — not more than 5 mg/kg, in category 12 — not more than 10 mg/kg, in category 14.1 — not more than 2 mg/kg, in category 14.2 — not more than 5 mg/kg, in category 15 — not more than 5 mg/kg, in category 16 — not more than 2,5 mg/kg.	1	EFSA
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▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.189	(Z,Z)-Nona-3,6-dien-1-ol	76649-25-7	1283	10289				EFSA
02.190	Nonan-3-ol	624-51-1		10290				EFSA
02.192	Oct-2-en-1-ol	22104-78-5					2	EFSA
02.193	Oct-2-en-4-ol	4798-61-2	1141				1	EFSA
02.194	Octa-1,5-dien-3-ol	83861-74-9						EFSA
02.195	Octa-(3Z,5E)-dien-1-ol	70664-96-9						EFSA
02.196	Octadecan-1-ol	112-92-5						EFSA
02.197	1,2,3,4,4a,5,6,7-Octahydro-2,5,5-trimethylnaphthalen-2-ol	41199-19-3		10173				EFSA
02.198	Octane-1,3-diol	23433-05-8						EFSA
02.201	Pent-4-en-1-ol	821-09-0						EFSA
02.202	Pentadecan-1-ol	629-76-5						EFSA
02.203	2-Phenylpropan-2-ol	617-94-7		11704				EFSA
02.204	Phytol	150-86-7	1832	10302				EFSA
02.205	Piperonyl alcohol	495-76-1		10306				EFSA
02.206	(-)-Sclareol	515-03-7		10311				EFSA
02.207	Thujyl alcohol	21653-20-3	1865					EFSA
02.209	3,3,5-Trimethylcyclohexan-1-ol	116-02-9	1099					EFSA
02.210	Undec-2-en-1-ol	37617-03-1	1384				2	EFSA

▼ **M3**▼ **M1**

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.211	Undeca-1,5-dien-3-ol	56722-23-7						EFSA
02.213	Vanillyl alcohol	498-00-0	886	690				EFSA
—								
02.216	12-beta-Santalen-14-ol	77-42-9		74			2	EFSA
02.217	12-alpha-Santalen-14-ol	115-71-9		74			2	EFSA
02.219	2,6-Dimethyl-2-heptanol	13254-34-7						EFSA
02.222	3-Pentenol-1	39161-19-8		10298				EFSA
02.224	3-(1-Menthoxy)propane-1,2-diol	87061-04-9	1408					EFSA
02.226	[S-(cis)]-3,7,11-Trimethyl-1,6,10-dodecatrien-3-ol	142-50-7		67				EFSA
02.229	(-)-3,7-Dimethyl-6-octen-1-ol	7540-51-4			At least 90 % cis-isomer; secondary components 2-6 % di-unsaturated and saturated C10 alcohols, 2-4 % citronellyl acetate and 2-3 % citronellal			EFSA
02.230	Terpineol	8000-41-7			Sum of isomers: 91-99 %. Relative contribution of each isomer: 55-75% alpha, 16-23% gamma, 1-10% cis-beta, 1-13% trans-beta, 0-1% delta			EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
02.231	trans-2, cis-6-Nonadien-1-ol	28069-72-9					2	EFSA
02.234	(Z)-Non-3-en-1-ol	10340-23-5		10293				EFSA
02.242	2-Butoxyethan-1-ol	111-76-2		10182				EFSA
02.243	(E,Z)-3,6-Nonadien-1-ol	56805-23-3	1284		At least 92%; secondary component 6% (E,E)-3,6-nonadien-1-ol			EFSA
02.245	2,3,4-Trimethyl-3-pentanol	3054-92-0	1643					EFSA
02.246	p-Menthane-3,8-diol	42822-86-6	1416					EFSA
02.247	l-Menthoxyethanol	38618-23-4	1853					EFSA
02.248	Vanillin 3-(l-menthoxy) propane-1,2-diol acetal	180964-47-0	1879					EFSA
02.249	(4Z)-Hepten-1-ol	6191-71-5	1280					EFSA
02.250	2,4,8-Trimethyl-7-nonen-2-ol	437770-28-0	1644					EFSA
02.251	2,4,8-Trimethyl-3,7-nonadien-2-ol	479547-57-4	1645					EFSA
▼ <b>M3</b>								
02.252	4,8-Dimethyl-3,7-nonadien-2-ol	67845-50-5	1841					EFSA
▼ <b>M1</b>								
02.253	2,4-Dimethyl-4-nonanol	74356-31-3	1850					EFSA
02.254	(1R, 2S, 5S)-3-Menthoxy-2-methylpropane-1,2-diol	195863-84-4	1411					EFSA
02.255	(Z)-4-Hepten-2-ol	66642-85-1			At least 91%; secondary components (E)-4-hepten-2-ol (4-5%), 2-heptanol (up to 1%), trans-3-hepten-2-ol (up to 1%), cis-3-hepten-2-ol (up to 1%).			EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
03.001	1,8-Cineole	470-82-6	1234	182				EFSA
03.003	Benzyl ethyl ether	539-30-0	1252	521				EFSA
03.004	Dibenzyl ether	103-50-4	1256	11856				EFSA
03.005	2-Butyl ethyl ether	2679-87-0	1231	10911				EFSA
03.006	2-Methoxyethyl benzene	3558-60-9	1254	11812				EFSA
03.007	1,4-Cineole	470-67-7	1233	11225	At least 75%; secondary component 20-25% 1,8-cineole.			EFSA
03.008	2-Acetoxy-1,8-cineole	57709-95-2						EFSA
03.010	Benzyl butyl ether	588-67-0	1253	520	At least 93%; secondary component 2-5% benzyl alcohol			EFSA
03.011	Benzyl methyl ether	538-86-3		10910				EFSA
03.012	Benzyl octyl ether	54852-64-1						EFSA
03.015	Ethyl geranyl ether	40267-72-9						EFSA
03.016	Hexyl methyl ether	4747-07-3						EFSA
03.019	Prenyl ethyl ether	22094-00-4	1232					EFSA
03.020	alpha-Terpinyll methyl ether	14576-08-0						EFSA
03.022	1-Methoxy-1-decene	79930-37-3	1802					EFSA
03.023	1-Ethoxyethyl acetate	1608-72-6						EFSA
03.024	Digeranyl ether	31147-36-1						EFSA
04.002	6-Ethoxyprop-3-enylphenol	94-86-0	1264	170				EFSA
04.003	Eugenol	97-53-0	1529	171				EFSA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
04.004	Isoeugenol	97-54-1	1260	172				EFSA
04.005	2-Methoxyphenol	90-05-1	713	173				EFSA
04.006	Thymol	89-83-8	709	174				EFSA
04.007	2-Methoxy-4-methylphenol	93-51-6	715	175				EFSA
04.008	4-Ethylguaiacol	2785-89-9	716	176				EFSA
04.009	2-Methoxy-4-vinylphenol	7786-61-0	725	177				EFSA
04.010	1-Methoxy-4-(prop-1(trans)-enyl)benzene	4180-23-8	217	183				JECFA
04.013	1,2-Dimethoxy-4-(prop-1-enyl)benzene	93-16-3	1266	186				EFSA
04.014	1-Methoxy-2-methylbenzene	578-58-5	1242	187				EFSA
04.015	1-Methoxy-4-methylbenzene	104-93-8	1243	188				EFSA
04.016	1,3-Dimethoxybenzene	151-10-0	1249	189				EFSA
04.017	1-Ethoxy-2-methoxy-4-(prop-1-enyl)benzene	7784-67-0	1267	190				EFSA
04.018	Benzyl isoeugenyl ether	120-11-6	1268	522				EFSA
04.019	2,5-Dimethylphenol	95-87-4	706	537				EFSA
04.020	3,5-Dimethylphenol	108-68-9		538				EFSA
04.021	3-Ethylphenol	620-17-7		549				EFSA
04.022	4-Ethylphenol	123-07-9	694	550				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
04.026	3-Methylphenol	108-39-4	692	617				EFSA
04.027	2-Methylphenol	95-48-7	691	618				EFSA
04.028	4-Methylphenol	106-44-5	693	619				EFSA
04.029	Benzene-1,2-diol	120-80-9		680				SCF/CoE
04.031	Carvacrol	499-75-2	710	2055				EFSA
04.032	Anisole	100-66-3	1241	2056				EFSA
04.033	beta-Naphthyl ethyl ether	93-18-5	1258	2058				EFSA
04.034	1,4-Dimethoxybenzene	150-78-7	1250	2059				EFSA
04.035	Diphenyl ether	101-84-8	1255	2201				EFSA
04.036	2,6-Dimethoxyphenol	91-10-1	721	2233				EFSA
04.037	4-Ethoxyphenol	622-62-8	720	2258				EFSA
04.038	Carvacryl ethyl ether	4732-13-2	1247	11840				EFSA
04.039	1-Methoxy-4-propylbenzene	104-45-0	1244	11835				EFSA
04.040	1,2-Dimethoxy-4-vinylbenzene	6380-23-0	1251	11228				EFSA
04.041	Phenol	108-95-2	690	11811				EFSA
04.042	2,6-Dimethylphenol	576-26-1	707	11261				EFSA
04.043	1-Isopropyl-2-methoxy-4-methylbenzene	1076-56-8	1246	11245				EFSA
04.044	2-Isopropylphenol	88-69-7	697	11234				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
04.045	2-(Ethoxymethyl)phenol	20920-83-6	714	11905				EFSA
04.046	2-Propylphenol	644-35-9	695	11908				EFSA
04.047	Benzene-1,3-diol	108-46-3	712	11250				EFSA
04.048	3,4-Dimethylphenol	95-65-8	708	11262				EFSA
04.049	2-Methoxy-4-propylphenol	2785-87-7	717					EFSA
04.050	4-Propylphenol	645-56-7	696					EFSA
04.051	4-Allyl-2,6-dimethoxyphenol	6627-88-9	726	11214				EFSA
04.052	4-Ethyl-2,6-dimethoxyphenol	14059-92-8	723	11231				EFSA
04.053	4-Methyl-2,6-dimethoxyphenol	6638-05-7	722					EFSA
04.054	Isobutyl beta-naphthyl ether	2173-57-1	1259	11886				EFSA
04.055	2,6-Dimethoxy-4-prop-1-enylphenol	20675-95-0	1265					EFSA
04.056	2,6-Dimethoxy-4-propylphenol	6766-82-1	724					EFSA
04.057	4-Vinylphenol	2628-17-3	711	11257				EFSA
04.058	4-Allylphenol	501-92-8	1527	11218				EFSA
04.059	Carvacryl methyl ether	6379-73-3		11224				EFSA
04.061	2,6-Dimethoxy-4-vinylphenol	28343-22-8		11229				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
04.062	1,2-Dimethoxybenzene	91-16-7	1248	10320				EFSA
04.063	1,3-Dimethyl-4-methoxybenzene	6738-23-4	1245					EFSA
04.064	4-(1,1-Dimethylethyl)phenol	98-54-4	733					EFSA
04.065	2,3-Dimethylphenol	526-75-0		11258				EFSA
04.066	2,4-Dimethylphenol	105-67-9		11259				EFSA
04.067	1-Ethoxy-2-methoxybenzene	17600-72-5						EFSA
04.068	1-Ethoxy-4-methoxybenzene	5076-72-2						EFSA
04.069	1-Ethyl-4-methoxybenzene	1515-95-3						EFSA
04.070	2-Ethylphenol	90-00-6		11232				EFSA
04.072	3-Isopropylphenol	618-45-1						EFSA
04.073	4-Isopropylphenol	99-89-8						EFSA
04.074	2-Methoxynaphthalene	93-04-9	1257					EFSA
04.075	1-Methoxynaphthalene	2216-69-5						EFSA
04.076	3-Methoxyphenol	150-19-6						EFSA
04.077	4-Methoxyphenol	150-76-5		11241				EFSA
04.078	5-Methyl-2-(tert-butyl)phenol	88-60-8						EFSA
04.079	Methyl 4-methoxybenzyl ether	1515-81-7						EFSA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
04.084	1,2,3-Trimethoxybenzene	634-36-6						EFSA
04.085	2,3,6-Trimethylphenol	2416-94-6	737					EFSA
04.088	1-Methoxy-4-(1-propenyl)benzene	104-46-1		183				CoE
04.091	Ethyl 4-hydroxybenzyl ether	57726-26-8						EFSA
04.092	4-Hydroxybenzyl methyl ether	5355-17-9						EFSA
04.093	Butyl vanillyl ether	82654-98-6	888					EFSA
04.094	Ethyl 4-hydroxy-3-methoxybenzyl ether	13184-86-6	887					EFSA
04.095	2,4,6-Trimethyl phenol	527-60-6						EFSA
04.096	2-Methoxy-6-(2-propenyl)phenol	579-60-2	1528					EFSA
04.097	4-Prop-1-enylphenol	539-12-8						EFSA
05.001	Acetaldehyde	75-07-0	80	89				JECFA
05.002	Propanal	123-38-6	83	90				JECFA
05.003	Butanal	123-72-8	86	91				JECFA
05.004	2-Methylpropanal	78-84-2	252	92				JECFA
05.005	Pentanal	110-62-3	89	93				JECFA
05.006	3-Methylbutanal	590-86-3	258	94				JECFA
05.007	2-Ethylbutanal	97-96-1	256	95				JECFA
05.008	Hexanal	66-25-1	92	96				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.009	Octanal	124-13-0	98	97	At least 92%; secondary component 4-7% 2-methylheptanal			JECFA
05.010	Decanal	112-31-2	104	98	At least 92%; secondary component 4-7% 2-methylnonanal			JECFA
05.011	Dodecanal	112-54-9	110	99	At least 92%; secondary components 3-6% tetradecanal; 2-5% decanal; 1-2% hexadecanal			JECFA
05.012	3,7-Dimethyl-7-hydroxyoctanal	107-75-5	611	100				JECFA
05.013	Benzaldehyde	100-52-7	22	101				EFSA
05.014	Cinnamaldehyde	104-55-2	656	102				EFSA
05.015	4-Methoxybenzaldehyde	123-11-5	878	103				EFSA
05.016	Piperonal	120-57-0	896	104				EFSA
05.017	Veratraldehyde	120-14-9	877	106				EFSA
05.018	Vanillin	121-33-5	889	107				EFSA
05.019	Ethyl vanillin	121-32-4	893	108				EFSA
05.020	Citral	5392-40-5	1225	109				EFSA
05.021	Citronellal	106-23-0	1220	110	At least 85%; secondary components 12-14% mixture of terpenoid materials (mainly 1,8-cineole, 2-isopropylidene-5-methylcyclohexanol, linalool, citronellyl acetate and other naturally occurring terpenes)			EFSA
05.022	4-Isopropylbenzaldehyde	122-03-2	868	111				EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.023	2,6-Dimethyloctanal	7779-07-9	273	112				JECFA
05.024	2-Methyloctanal	7786-29-0	270	113				JECFA
05.025	Nonanal	124-19-6	101	114	At least 92%; secondary component 4-8% 2-methyloctanal			JECFA
▼ <u>M3</u>								
05.026	o-Tolualdehyde	529-20-4						EFSA
▼ <u>M1</u>								
05.027	Tolualdehyde	1334-78-7	866	115	At least 95% (sum of o,m,p-isomers)			EFSA
▼ <u>M3</u>								
05.028	m-Tolualdehyde	620-23-5						EFSA
05.029	p-Tolualdehyde	104-87-0						EFSA
▼ <u>M1</u>								
05.030	Phenylacetaldehyde	122-78-1	1002	116				EFSA
05.031	Heptanal	111-71-7	95	117	At least 92%; secondary component 4-7% 2-methylhexanal			EFSA
05.032	Tetradecanal	124-25-4	112	118	At least 85%; secondary components 10-12% dodecanal, hexadecanal, and octadecanal			JECFA
05.033	2-Ethylhept-2-enal	10031-88-6	1216	120			1	EFSA
05.034	Undecanal	112-44-7	107	121	At least 92%; secondary component 4-8% 2-methyldecanal			JECFA
05.035	Undec-10-enal	112-45-8	330	122				JECFA
05.036	Undec-9-enal	143-14-6	329	123				JECFA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.037	2-Dodecenal	4826-62-4	1350	124	At least 93%; secondary component 3-4% 2-dodecenoic acid		2	EFSA
05.038	2-Phenylpropanal	93-53-8	1467	126				EFSA
05.039	alpha-Butylcinnamaldehyde	7492-44-6	684	127				EFSA
05.040	alpha-Pentylcinnamaldehyde	122-40-7	685	128				EFSA
05.041	alpha-Hexylcinnamaldehyde	101-86-0	686	129				EFSA
05.042	p-Tolylacetaldehyde	104-09-6	1023	130				EFSA
05.043	2-(p-Tolyl)propionaldehyde	99-72-9	1471	131				EFSA
05.044	p-Isopropyl phenylacetaldehyde	4395-92-0	1024	132				EFSA
05.045	3-(p-Cumenyl)-2-methylpropionaldehyde	103-95-7	1465	133	At least 90%; secondary component 5% 3-(p-cumenyl)-2-methylpropionic acid			EFSA
05.046	2-Methyl-4-phenylbutyraldehyde	40654-82-8	1462	134				EFSA
05.047	4-Hydroxybenzaldehyde	123-08-0	956	558				EFSA
05.048	2-Methoxycinnamaldehyde	1504-74-1	688	571	At least 94%; secondary component 3% o-methoxycinnamic acid			EFSA
05.049	2-Methylbutyraldehyde	96-17-3	254	575				JECFA
05.050	alpha-Methylcinnamaldehyde	101-39-3	683	578				EFSA
05.051	3-(4-Methoxyphenyl)-2-methylprop-2-enal	65405-67-6	689	584				EFSA
05.052	2-Methyl-3-(p-tolyl)propionaldehyde	41496-43-9	1466	587				EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.053	2,4,6-Trimethyl-1,3,5-trioxane	123-63-7		594				SCF/CoE
05.055	Salicylaldehyde	90-02-8	897	605				EFSA
05.056	4-Ethoxybenzaldehyde	10031-82-0	879	626				EFSA
▼ <u>M15</u> 05.057	Hexa-2(trans),4(trans)-dienal	142-83-6	1175	640		Restrictions of use as a flavouring substance:  In category 1 — not more than 10 mg/kg, in category 3 — not more than 10 mg/kg, in category 4.2 — not more than 15 mg/kg, in category 5 — not more than 20 mg/kg, in category 6 — not more than 0,05 mg/kg, in category 7 — not more than 15 mg/kg, in category 8 — not more than 15 mg/kg, in category 9 — not more than 20 mg/kg, in category 11 — not more than 50 mg/kg, in category 12 — not more than 4 mg/kg, in category 14.1 — not more than 15 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 16 — not more than 10 mg/kg.	1	EFSA
▼ <u>M1</u> 05.058	Nona-2(trans),6(cis)-dienal	557-48-2	1186	659	At least 92%; secondary component 4-7% (E,E)-2,6-nonadienal		2	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.059	Non-6(cis)-enal	2277-19-2	325	661	At least 90%; secondary component 6-9% trans-6-nonenal			JECFA
05.060	Oct-2-enal	2363-89-5	1363	663	At least 92%; secondary components 3-4% 2-octenoic acid and ethyl octanoate		2	EFSA
05.061	Oct-6-enal	63826-25-5		664				EFSA
05.062	2-Phenylcrotonaldehyde	4411-89-6	1474	670			2	EFSA
▼ <b>M15</b> 05.064	Trideca-2(trans),4(cis),7(cis)-trienal	13552-96-0	1198	685	At least 71 %; secondary components 14 % 4-cis-7-cis-tridecadienol; 6 % 3-cis-7-cis-tridecadienol; 5 % 2-trans-7-cis-tridecadienal; 3 % 2-trans-4-trans-7-cis-tridecatrienal	Restrictions of use as a flavouring substance:  In category 2 — not more than 1 mg/kg, in category 8 — not more than 2 mg/kg, in category 9 — not more than 1 mg/kg, in category 12 — not more than 1 mg/kg, in category 15 — not more than 1 mg/kg.	1	EFSA
▼ <b>M1</b> 05.066	4-Ethoxy-3-methoxybenzaldehyde	120-25-2		703				EFSA
05.068	4-Ethylbenzaldehyde	4748-78-1	865	705				EFSA
05.069	2-Methylpentanal	123-15-9	260	706				JECFA
05.070	2-Heptenal	2463-63-0	1360	730			2	SCF/CoE

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
▼ <u>M15</u> 05.071	Nona-2,4-dienal	6750-03-4	1185	732	At least 89 %; secondary components 5-6 % 2,4-nonadien-1-ol and 1-2 % 2-nonen-1-ol	Restrictions of use as a flavouring substance:  In category 1 — not more than 1,5 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 1 mg/kg, in category 4.2 — not more than 1 mg/kg, in category 5 — not more than 5 mg/kg, in category 6 — not more than 1 mg/kg, in category 7 — not more than 5 mg/kg, in category 8 — not more than 5 mg/kg, in category 9 — not more than 5 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 10 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 5 mg/kg, in category 16 — not more than 1 mg/kg.	1	EFSA
▼ <u>M1</u> 05.072	trans-2-Nonenal	18829-56-6		733	At least 92%; secondary component 3-4% 2-nonenic acid		2	CoE

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.073	Hex-2(trans)-enal	6728-26-3	1353	748	At least 92%; secondary component 3-4% 2-hexenoic acid		2	CoE
05.074	2,6-Dimethylhept-5-enal	106-72-9	349	2006	At least 85%; secondary components 9-10% 6-methyl-5-hepten-2-one; 1-2% 2,6-dimethyl-6-heptenal			JECFA
05.075	Hex-3(cis)-enal	6789-80-6	316	2008				JECFA
05.076	Dec-2-enal	3913-71-1	1349	2009	At least 92%; secondary components 3-4% 2-decenoic acid		2	EFSA
05.077	2-Methylundecanal	110-41-8	275	2010				JECFA
05.078	Tridec-2-enal	7774-82-5	1359	2011	At least 92%; secondary components 3-4% 2-tridecenoic acid		2	EFSA
05.079	Citronellyl oxyacetaldehyde	7492-67-3	592	2012	At least 75%; secondary components 20-21% geranyloxyacetaldehyde; 1-2% citronellol			EFSA
05.080	3-Phenylpropanal	104-53-0	645	2013				EFSA
▼ <b>M15</b> 05.081	2,4-Decadienal	2363-88-4	3135	2120	At least 89 %; secondary components mixture of the (cis, cis)-; (cis, trans)- and (trans, cis)- 2,4-decadienals (sum of all isomers 95 %); acetone and isopropanol	Restrictions of use as a flavouring substance: In category 1 — not more than 1,5 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 1,5 mg/kg, in category 4.2 — not more than 5 mg/kg, in category 5 — not more than 5 mg/kg (except in category 5.3 — not more than 10 mg/kg), in category 6 — not more than 5 mg/kg, in category 7 — not more than 5 mg/kg,	1	EFSA



▼ **M15**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						in category 8 — not more than 10 mg/kg, in category 9 — not more than 3 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 7,5 mg/kg, in category 12 — not more than 10 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 20 mg/kg, in category 16 — not more than 1,5 mg/kg.		
▼ <b>M1</b> 05.082	(Z,Z)-3,6-Dodecadienal	13553-09-8		2121				EFSA
▼ <b>M15</b> 05.084	Hepta-2,4-dienal	4313-03-5	1179	729	At least 92 %; secondary components 2-4 % (E,Z)-2,4-heptadienal and 2-4 % 2,4-heptadienoic acid	Restrictions of use as a flavouring substance: In category 1 — not more than 5 mg/kg, in category 2 — not more than 10 mg/kg, in category 3 — not more than 1 mg/kg, in category 4.2 — not more than 1 mg/kg, in category 5 — not more than 5 mg/kg, in category 6 — not more than 0,5 mg/kg, in category 7 — not more than 10 mg/kg.	1	EFSA

▼ **M15**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						in category 8 — not more than 6 mg/kg, in category 9 — not more than 6 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 2 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 3 mg/kg, in category 16 — not more than 1 mg/kg		
▼ <b>M3</b> 05.085	(Z)-Hept-4-enal	6728-31-0	320	2124	At least 93 % of Z-form of hept-4-enal; secondary component 2-5 % of E-form of hept-4-enal.			JECFA
▼ <b>M1</b> 05.090	2-Methylpent-2-enal	623-36-9	1209	2129	At least 92%; secondary components 1.5-2.5% propionaldehyde and 3.5-4.5% propionic acid		1	EFSA
05.091	2-Hydroxy-4-methylbenzaldehyde	698-27-1	898	2130				EFSA
05.094	3-(4-Isopropylphenyl)propionaldehyde	7775-00-0	680	2261	85-90% p-isomer and 5-10% o-isomer			EFSA
05.095	2-Methylcrotonaldehyde	497-03-0	1201	2281			1	EFSA
05.096	4-Decenal	30390-50-2	326	2297				JECFA
05.097	3-Methyl-2-phenylbutyraldehyde	2439-44-3	1463	135				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.098	p-Menth-1-en-9-al	29548-14-9	971	10347				EFSA
05.099	5-Methyl-2-phenylhex-2-enal	21834-92-4	1472	10365			2	EFSA
05.100	4-Methyl-2-phenylpent-2-enal	26643-91-4	1473	10366			2	EFSA

▼ **M15**

05.101	Penta-2,4-dienal	764-40-9	1173	11695		Restrictions of use as a flavouring substance:  In category 1 — not more than 1 mg/kg, in category 3 — not more than 1 mg/kg, in category 5 — not more than 1 mg/kg, in category 6 — not more than 1 mg/kg, in category 7 — not more than 1 mg/kg, in category 8 — not more than 1 mg/kg, in category 12 — not more than 1 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 16 — not more than 1 mg/kg.	1	EFSA
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▼ **M1**

05.102	Pent-2-enal	764-39-6	1364	10375			2	EFSA
05.103	3-Phenylpent-4-enal	939-21-9	679	10378				EFSA
05.104	2,6,6-Trimethylcyclohexa-1,3-diene-1-carbaldehyde	116-26-7	977	10383				EFSA
05.105	2-Butylbut-2-enal	25409-08-9	1214	10324			1	EFSA

▼ **M14**

05.106	Myrtenal	564-94-3	980	10379		In categories 1, 2, 3, 4.2, 5, 6, 7, 8, 9, 10, 11, 12, 14.1, 14.2, 15, and 16	1	EFSA
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▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.107	2-Isopropyl-5-methylhex-2-enal	35158-25-9	1215	10361			1	EFSA

▼ M15

05.108	Undeca-2,4-dienal	13162-46-4	1195	10385		Restrictions of use as a flavouring substance:  In category 1 — not more than 1 mg/kg, in category 2 — not more than 5 mg/kg. In category 3 — not more than 1 mg/kg. In category 4.2 — not more than 1 mg/kg, in category 5 — not more than 1 mg/kg (except in category 5.3 — not more than 10 mg/kg), in category 6 — not more than 1 mg/kg, in category 7 — not more than 5 mg/kg, in category 8 — not more than 3 mg/kg, in category 9 — not more than 3 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 1 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 3 mg/kg, in category 16 — not more than 1 mg/kg.	1	EFSA
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▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.109	2-Undecenal	2463-77-6	1366	11827			2	EFSA
05.110	2,4-Dimethylbenzaldehyde	15764-16-6	869					EFSA
05.111	Octa-2(trans),6(trans)-dienal	56767-18-1	1182	10371			2	EFSA
05.112	2,6,6-Trimethylcyclohex-1-en-1-acetaldehyde	472-66-2	978	10338	At least 92%; secondary components 2-3% beta-cyclocitral; 0.5-1% beta-ionone; 2-4% methyl beta-homocyclogeranate; 0.6-1% ethyl beta-homocyclogeranate			EFSA
05.113	Hex-4-enal	4634-89-3	319	10337				JECFA
05.114	4-Methylpent-2-enal	5362-56-1	1208	10364			2	EFSA
05.115	2-Phenylpent-4-enal	24401-36-3	1476	10377				EFSA
05.116	3,5,5-Trimethylhexanal	5435-64-3	269	10384				JECFA
▼ <b>M8</b>								
▼ <b>M1</b>								
05.118	4-Methoxycinnamaldehyde	1963-36-6	687	11919				EFSA
05.119	(1R) 2,2,3-Trimethylcyclopent-3-en-1-yl acetaldehyde	4501-58-0	967	10325				EFSA
05.120	Dodeca-2,6-dienal	21662-13-5	1197				2	EFSA
▼ <b>M12</b>								
▼ <b>M1</b>								
05.122	p-Methylcinnamaldehyde	1504-75-2	682	10352				EFSA
05.123	(1R,2R,5S) 5-Isopropenyl-2-methylcyclopentanecarboxaldehyde	55253-28-6	968					EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.124	3-Methylcrotonaldehyde	107-86-8	1202	10354				EFSA

▼ **M15**

05.125	Dodeca-2,4-dienal	21662-16-8	1196	11758	At least 85 %; secondary component 11-12 % 2-trans-4-cis isomer	Restrictions of use as a flavouring substance:  In category 1 — not more than 1 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 1 mg/kg, in category 4.2 — not more than 1 mg/kg, in category 5 — not more than 1 mg/kg (except in category 5.3 — not more than 10 mg/kg), in category 6 — not more than 1 mg/kg, in category 7 — not more than 3 mg/kg, in category 8 — not more than 3 mg/kg, in category 9 — not more than 3 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 1 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 3 mg/kg, in category 16 — not more than 1 mg/kg.	1	EFSA
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▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.126	2-Methyloct-2-enal	49576-57-0	1217	10363			1	EFSA

▼ M15

05.127	Octa-2(trans),4(trans)-dienal	30361-28-5	1181	11805		Restrictions of use as a flavouring substance: In category 1 — not more than 1 mg/kg, in category 3 — not more than 1 mg/kg, in category 5 — not more than 10 mg/kg, in category 6 — not more than 5 mg/kg, in category 7 — not more than 2 mg/kg, in category 8 — not more than 2 mg/kg, in category 12 — not more than 2 mg/kg, in category 14.1 — not more than 3 mg/kg, in category 15 — not more than 1 mg/kg, in category 16 — not more than 2 mg/kg.	1	EFSA
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▼ M1

05.128	Oct-5(cis)-enal	41547-22-2	323		At least 85%; secondary component 10-15% trans-5-octenal			JECFA
05.129	2-Methoxybenzaldehyde	135-02-4		10350				EFSA
05.134	2-Methyl-3-tolylpropionaldehyde (mixed o,m,p-)			587	At least 95% (sum of isomers p-80%; o-10%; m-5% )			CoE

▼ M3

05.137	Dec-4(cis)-enal	21662-09-9			At least 90 %; secondary component at least 5 % trans-isomer			EFSA
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▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.139	Dec-9-enal	39770-05-3	1286					EFSA

▼ **M15**

05.140	Deca-2(trans),4(trans)-dienal	25152-84-5	1190	2120	At least 89 %; secondary components 3-4 % mixture of (cis-cis)-; (cis-trans)- and (trans-cis)- 2,4-decadienals; 3-4 % acetone and trace of isopropanol	Restrictions of use as a flavouring substance: In category 1 — not more than 1,5 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 1,5 mg/kg, in category 4.2 — not more than 5 mg/kg, in category 5 — not more than 5 mg/kg, (except in category 5.3 — not more than 10 mg/kg), in category 6 — not more than 5 mg/kg, in category 7 — not more than 5 mg/kg In category 8 — not more than 10 mg/kg, in category 9 — not more than 3 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 7,5 mg/kg, in category 12 — not more than 10 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 20 mg/kg, in category 16 — not more than 1,5 mg/kg.	1	EFSA
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▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.141	Deca-2,4,7-trienal	51325-37-2	1786			Restrictions of use as a flavouring substance:  In category 1 — not more than 1 mg/kg, in category 2 — not more than 1 mg/kg, in category 3 — not more than 1 mg/kg, in category 4.2 — not more than 1 mg/kg, in category 5 — not more than 1 mg/kg, in category 6 — not more than 1 mg/kg, in category 7 — not more than 1 mg/kg, in category 8 — not more than 1 mg/kg, in category 9 — not more than 1 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 1 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 1 mg/kg, in category 16 — not more than 1 mg/kg.	1	EFSA
05.142	3,4-Dihydroxybenzaldehyde	139-85-5		10328				EFSA

▼ **M15**▼ **M1**

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.143	2,5-Dimethyl-2-vinylhex-4-enal	56134-05-5						EFSA
05.144	Dodec-2(trans)-enal	20407-84-5			At least 93%; secondary component 2-3% 2-dodecenoic acid		2	EFSA
05.147	2-Ethylhexanal	123-05-7		10331				EFSA
05.148	Farnesal	19317-11-4	1228					EFSA
05.149	Glutaraldehyde	111-30-8						EFSA
05.150	Hept-2(trans)-enal	18829-55-5	1360	730			2	EFSA
05.152	Hexadecanal	629-80-1		10336				EFSA
05.153	4-Hydroxy-3,5-dimethoxybenzaldehyde	134-96-3	1878	10340				EFSA
05.154	(E)-4-Hydroxy-3,5-dimethoxycinnamaldehyde	4206-58-0		10341				EFSA
05.155	4-Hydroxy-3-methoxycinnamaldehyde (mixture of isomers)	458-36-6		10342				EFSA
05.156	3-(4-Hydroxy-3-methoxyphenyl)propanal	80638-48-8						EFSA
05.157	Isocyclocitral	1335-66-6						EFSA
05.158	3-Methoxybenzaldehyde	591-31-1		10351				EFSA
05.159	p-Methoxyphenylacetaldehyde	5703-26-4						EFSA
05.160	2-Methyldecanal	19009-56-4						EFSA
05.164	2-Methylhexanal	925-54-2						EFSA
05.166	4-Methylpentanal	1119-16-0		10369				EFSA
05.167	12-Methyltetradecanal	75853-50-8						EFSA
05.169	12-Methyltridecanal	75853-49-5	1229					EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.170	Neral	106-26-3					1	EFSA
05.171	Non-2-enal	2463-53-8	1362	733	At least 92%; secondary component 3-4% 2-nonenic acid		2	EFSA
05.172	Nona-2(trans),6(trans)-dienal	17587-33-6	1187				2	EFSA
▼ <u>M15</u> 05.173	Nona-2,4,6-trienal	57018-53-8	1785			Restrictions of use as a flavouring substance:  In category 1 — not more than 15 mg/kg, in category 2 — not more than 10 mg/kg, in category 3 — not more than 15 mg/kg, in category 4.2 — not more than 15 mg/kg, in category 5 — not more than 20 mg/kg, in category 6 — not more than 10 mg/kg, in category 7 — not more than 25 mg/kg, in category 8 — not more than 5 mg/kg, in category 9 — not more than 5 mg/kg, in category 12 — not more than 25 mg/kg, in category 14.1 — not more than 10 mg/kg, in category 15 — not more than 15 mg/kg, in category 16 — not more than 15 mg/kg.	1	EFSA
▼ <u>M1</u> 05.174	Pent-4-enal	2100-17-6	1619					EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.175	2-Phenylpent-2-enal	3491-63-2					2	EFSA
05.179	(E)-Tetradec-2-enal	51534-36-2	1803				2	EFSA

▼ M3

05.182	2,6,6-Trimethylcyclohex-2-ene-1-carboxaldehyde	432-24-6						EFSA
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▼ M1

05.183	4-(2,6,6-Trimethylcyclohexenyl)-2-methylbutanal	73398-85-3						EFSA
05.184	Undec-2(trans)-enal	53448-07-0					2	EFSA

▼ M15

05.186	2,4-Octadienal	5577-44-6		11805		Restrictions of use as a flavouring substance:  In category 1 — not more than 1 mg/kg, in category 3 — not more than 1 mg/kg, in category 5 — not more than 10 mg/kg, in category 6 — not more than 5 mg/kg, in category 7 — not more than 2 mg/kg, in category 8 — not more than 2 mg/kg, in category 12 — not more than 2 mg/kg, in category 14.1 — not more than 3 mg/kg, in category 15 — not more than 1 mg/kg, in category 16 — not more than 2 mg/kg.	1	EFSA
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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.188	trans-3,7-Dimethylocta-2,6-dienal	141-27-5					1	EFSA
05.189	2-Hexenal	505-57-7			At least 92%; secondary component 3-4% 2-hexenoic acid		2	EFSA
05.190	trans-2-Octenal	2548-87-0			At least 92%; secondary components 3-4% 2-octenoic acid and ethyl octanoate		2	EFSA
05.191	trans-2-Decenal	3913-81-3			At least 92%; secondary component 3-4% 2-decenoic acid		2	EFSA
05.192	3-Hexenal	4440-65-7	1271		At least 80% (total of cis- and trans-isomers); secondary component 18-20% trans-2-hexenal.			EFSA

## ▼M15

05.194	tr-2, tr-4-Nonadienal	5910-87-2		732	At least 89 %; secondary components at least 5 % 2,4-nonadien-1-ol and 2-nonen-1-ol and other isomers of 2,4-nonadienal	Restrictions of use as a flavouring substance: In category 1 — not more than 1,5 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 1 mg/kg, in category 4.2 — not more than 1 mg/kg, in category 5 — not more than 5 mg/kg, in category 6 — not more than 1 mg/kg, in category 7 — not more than 5 mg/kg, in category 8 — not more than 5 mg/kg, in category 9 — not more than 5 mg/kg.	1	EFSA
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▼ **M15**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 10 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 5 mg/kg, in category 16 — not more than 1 mg/kg.		
05.195	trans-2-Tridecenal	7069-41-2			At least 92%; secondary components 2-5% 2-tridecenoic acid and 3-5% cis-2-tridecenal		2	EFSA
05.196	tr-2, tr-4-Undecadienal	30361-29-6		10385		Restrictions of use as a flavouring substance:  In category 1 — not more than 1 mg/kg, in category 2 — not more than 5 mg/kg, in category 3 — not more than 1 mg/kg, in category 4.2 — not more than 1 mg/kg,  in category 5 — not more than 1 mg/kg (except in category 5.3 — not more than 10 mg/kg),	1	EFSA

▼ **M15**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						in category 6 — not more than 1 mg/kg, in category 7 — not more than 5 mg/kg, in category 8 — not more than 3 mg/kg, in category 9 — not more than 3 mg/kg, in category 10 — not more than 1 mg/kg, in category 11 — not more than 1 mg/kg, in category 12 — not more than 1 mg/kg, in category 14.1 — not more than 1 mg/kg, in category 14.2 — not more than 1 mg/kg, in category 15 — not more than 3 mg/kg, in category 16 — not more than 1 mg/kg.		
▼ <b>M1</b> 05.198	3-Butenal, 2-methyl-4-(2,6,6-trimethyl-2-cyclohexen-1-yl)-	58102-02-6						EFSA
05.203	9-Octadecenal	5090-41-5	1641					EFSA
05.208	Z-8-Tetradecenal	169054-69-7	1640					EFSA
05.211	6-Methyloctanal	30689-75-9						EFSA
05.217	(Z)-5-Decenal	21662-08-8						EFSA
05.218	16-Octadecenal	56554-87-1						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
05.219	3-Methylhexanal	19269-28-4						EFSA
05.220	4Z-Dodecenal	21944-98-9	1636		At least 94% of (4Z)-dodecenal; secondary component 3-4% dodecanal			EFSA
05.221	6,6'-Dihydroxy-5,5'-dimethoxy-biphenyl-3,3'-dicarb-aldehyde	2092-49-1	1881					EFSA
05.222	2-Phenyl-4-methyl-2-hexenal	26643-92-5					2	EFSA
05.223	4-Ethyl-octanal	58475-04-0	1819					EFSA
05.224	(4E)-hexenal	25166-87-4	1622					EFSA
05.225	6-Methylheptanal	63885-09-6						EFSA
05.226	E-4-Undecenal	68820-35-9						EFSA
06.001	1,1-Diethoxyethane	105-57-7	941	35				EFSA
06.002	5-Hydroxy-2-phenyl-1,3-dioxane	1708-40-3	838	36	At least 98% (sum of 5-hydroxy-2-phenyl-1,3-dioxane and 2-phenyl-4-hydroxymethyl-1,3-dioxalane)			EFSA
06.003	alpha,alpha-Dimethoxy-toluene	1125-88-8	837	37				EFSA
06.004	Citral diethyl acetal	7492-66-2	948	38	At least 98% (sum of isomers + hemiacetals + citral)			EFSA
06.005	Citral dimethyl acetal	7549-37-3	944	39	At least 98% (sum of isomers + hemiacetals + citral)			EFSA
06.006	1,1-Dimethoxy-2-phenylethane	101-48-4	1003	40				EFSA
06.007	Phenylacetaldehyde glyceryl acetal	29895-73-6	1004	41	57% 5-hydroxymethyl-2-phenyl-1,3-dioxolan; 38% 5-hydroxy-2-phenyl-1,3-dioxan			EFSA



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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.008	1,1-Dimethoxyoctane	10022-28-3	942	42				EFSA
06.009	1,1-dimethoxydecane	7779-41-1	945	43				EFSA
06.010	1,1-Diethoxy-3,7-dimethyl-octan-7-ol	7779-94-4	613	44				JECFA
06.011	1,1-Dimethoxy-3,7-dimethyloctan-7-ol	141-92-4	612	45				JECFA
06.012	Tolualdehyde glyceryl acetal	1333-09-1	867	46	40% 5-hydroxydioxane; 60% 5-hydroxymethyldioxalane			EFSA
06.013	alpha-Pentylcinnamaldehyde dimethyl acetal	91-87-2	681	47				EFSA
06.014	Cinnamaldehyde ethylene glycol acetal	5660-60-6	648	48				EFSA
06.015	1,1-Dimethoxyethane	534-15-6	940	510				EFSA
06.016	1-Phenylethoxy-1-propoxy ethane	7493-57-4	1000	511				EFSA
06.017	(Diethoxymethyl)benzene	774-48-1		517				EFSA
06.019	1-Benzyloxy-1-(2-methoxyethoxy)ethane	7492-39-9	840	523				EFSA
06.020	1,1-Diethoxydecane	34764-02-8		531				SCF/CoE
06.021	1,1-Diethoxyheptane	688-82-4		553				SCF/CoE
06.023	1,1-Diethoxyhexane	3658-93-3		557				SCF/CoE
06.024	1,1-Di-isobutoxy-2-phenylethane	68345-22-2	1006	595				EFSA
06.025	1,1-Diethoxynona-2,6-diene	67674-36-6	946	660			2	EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.027	4,5-Dimethyl-2-benzyl-1,3-dioxolan	5468-06-4	1005	669	At least 93%; secondary component 2-3% butane-2,3-diol			EFSA
06.028	1,1-Dimethoxyheptane	10032-05-0	947	2015				EFSA
06.029	Heptanal glyceryl acetal (mixed 1,2 and 1,3 acetals)	72854-42-3	912	2016	Mixture of acetals (56-58% dioxolane; 37-39% dioxane) and 1-2% unreacted heptanal			EFSA
06.030	1,1-Dimethoxy-2-phenylpropene	90-87-9	1468	2017				EFSA
06.031	1,1-Diethoxyhex-2-ene	54306-00-2	1383	2135			2	EFSA
06.032	4-Methyl-2-phenyl-1,3-dioxolane	2568-25-4	839	2226				EFSA
06.033	1,1-Dibutoxyethane	871-22-7		2341				SCF/CoE
06.034	1,1-Dipropoxyethane	105-82-8		2342				SCF/CoE
06.035	Citral propylene glycol acetal	10444-50-5		2343				SCF/CoE
06.036	1-Butoxy-1-(2-phenylethoxy)ethane	64577-91-9	1001	10007				EFSA
06.037	1,1-Diethoxyhept-4-ene (cis and trans)	1192738-48-9	949	10011				EFSA
06.038	4,4-Dimethoxybutan-2-one	5436-21-5	593	10029				JECFA
06.039	1,2-Di((1'-ethoxy)-ethoxy)propane	67715-79-1	927					EFSA
06.040	1,2,3-Tris([1'-ethoxy]-ethoxy)propane	67715-82-6	913	11930				EFSA
06.041	1-Isobutoxy-1-ethoxy-2-methylpropane			10055				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.042	1-Isobutoxy-1-ethoxy-3-methylbutane	85136-40-9		10057				EFSA
06.043	1-Isoamyloxy-1-ethoxy-propane	238757-30-7		10038				EFSA
06.044	1-Isobutoxy-1-ethoxy-propane	67234-04-2		10058				EFSA
06.045	1-Isobutoxy-1-isopentyloxy-2-methylpropane			10061				EFSA
06.046	1-Isobutoxy-1-isopentyloxy-3-methylbutane			10060				EFSA
06.047	1-Isopentyloxy-1-propoxyethane	238757-63-6		10065				EFSA
06.048	1-Isopentyloxy-1-propoxy-propane	238757-65-8		10066				EFSA
06.049	1-Butoxy-1-(2-methylbutoxy)ethane	77249-20-8						EFSA
06.050	1-Butoxy-1-ethoxyethane	57006-87-8		10003				EFSA
06.051	1,1-Di-(2-methylbutoxy)ethane	13535-43-8						EFSA
06.052	1,1-Di-isobutoxy-2-methylpropane	13262-24-3		10025				EFSA
06.053	1,1-Di-isobutoxyethane	5669-09-0		10023				EFSA
06.054	1,1-Di-isobutoxypentane	13262-27-6		10026				EFSA
06.055	1,1-Di-isopentyloxyethane	13002-09-0	1729	10028				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.057	1,1-Diethoxy-2-methylbutane	3658-94-4		10013				EFSA
06.058	1,1-Diethoxy-2-methylpropane	1741-41-9		10015				EFSA
06.059	1,1-Diethoxy-3-methylbutane	3842-03-3	1730	10014				EFSA
06.061	1,1-Diethoxybutane	3658-95-5		10009				EFSA
06.062	1,1-Diethoxydodecane	53405-98-4						EFSA
06.063	(Z)-1,1-diethoxyhex-3-ene	73545-18-3						EFSA
06.064	Diethoxymethane	462-95-3		10012				EFSA
06.065	1,1-Diethoxynonane	54815-13-3		10016				EFSA
06.066	1,1-Diethoxyoctane	54889-48-4						EFSA
06.067	1,1-Diethoxypentane	3658-79-5		10017				EFSA
06.069	1,1-Diethoxypropane	4744-08-5		10018				EFSA
06.070	1,1-Diethoxyundecane	53405-97-3						EFSA
06.071	1,1-Dihexyloxyethane	5405-58-3		10022				EFSA
06.072	1,1-Dimethoxyhex-2(trans)-ene	18318-83-7	1728				2	EFSA
06.073	1,1-Dimethoxyhexane	1599-47-9						EFSA
06.074	Dimethoxymethane	109-87-5		10031				EFSA
06.075	1,1-Dimethoxypentane	26450-58-8						EFSA
06.076	1,1-Dimethoxypropane	4744-10-9						EFSA
06.077	2,4-Dimethyl-1,3-dioxolane	3390-12-3	1711					EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.078	1,1-Diphenethoxyethane	122-71-4						EFSA
06.079	1-Ethoxy-1-(2-methylbutoxy)ethane	13602-09-0		10040				EFSA
06.080	1-Ethoxy-1-(2-phenylethoxy)ethane	2556-10-7		10049				EFSA
06.081	(Z)-1-Ethoxy-1-(3-hexenyl)ethane	28069-74-1	943	10034				EFSA
06.082	1-Ethoxy-1-hexyloxyethane	54484-73-0		11948				EFSA
06.083	1-Ethoxy-1-isopentyloxyethane	13442-90-5		10037				EFSA
06.084	1-Ethoxy-1-methoxyethane	10471-14-4		10039				EFSA
06.085	1-Ethoxy-1-pentyloxyethane	13442-89-2		10046				EFSA
06.086	1-Ethoxy-1-propoxyethane	20680-10-8		10050				EFSA
06.087	Ethyl 2,4-dimethyl-1,3-dioxolane-2-acetate	6290-17-1	1715					EFSA
06.088	2-Ethyl-4-methyl-1,3-dioxolane	4359-46-0						EFSA
06.089	2-Hexyl-4,5-dimethyl-1,3-dioxolane	6454-22-4	1712					EFSA
06.090	4-Hydroxymethyl-2-methyl-1,3-dioxolane	3773-93-1						EFSA
06.091	1-Isobutoxy-1-ethoxyethane	6986-51-2		10054				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.092	1-Isobutoxy-1-isopentyloxyethane	75048-15-6		10059				EFSA
06.094	4-Methyl-2-pentyl-1,3-dioxolane	1599-49-1	928					EFSA
06.095	4-Methyl-2-propyl-1,3-dioxolane	4352-99-2						EFSA
06.096	Triethoxymethane	122-51-0		10903				EFSA
06.097	1,1,3-Triethoxypropane	7789-92-6		10075				EFSA
06.098	2,2,4-Trimethyl-1,3-dioxolane	1193-11-9	929	11423				EFSA
06.100	1,1-Dipentyloxyethane	13002-08-9		10032				EFSA
06.102	2-Hexyl-5-hydroxy-1,3-dioxane	1708-36-7		2016				EFSA
06.104	Vanillin propylene glycol acetal	68527-74-2	1882					EFSA
06.105	3-Methyl-1,1-di-isopentyloxybutane	13285-51-3		10070				EFSA
06.106	2-Methyl-1,1-di-isopentyloxypropane	13112-63-5		10071				EFSA
06.107	1-(2-Methylbutoxy)-1-isopentyloxyethane	13548-84-0		10068				EFSA
06.109	8,8-Diethoxy-2,6-dimethyloct-2-ene	71662-17-4						EFSA
06.111	1-Ethoxy-1-methoxypropane	127248-84-4						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.114	1-Hexyloxy-1-isopentyloxyethane	233665-90-2						EFSA
06.115	1-isopentyloxy-1-pentyloxyethane	13442-92-7						EFSA
06.120	DL-Menthone-1,2-glycerol ketal	63187-91-7	446					JECFA
06.123	1-Butoxy-1-isopentyloxyethane	238757-27-2		10004				EFSA
06.124	1,1-Di-isobutoxy-3-methylbutane	13439-98-0		10024				EFSA
06.125	1,1-Di-isobutoxypropane	13002-11-4		10027				EFSA
06.128	1-Ethoxy-1-pentyloxybutane	3658-92-2		10045				EFSA
06.129	1-Ethoxy-2-methyl-1-isopentyloxypropane	253679-74-2		10043				EFSA
06.130	1-Ethoxy-2-methyl-1-propoxypropane	238757-42-1		10044				EFSA
06.131	1-Ethoxy-1-(3-methylbutoxy)-3-methylbutane	238757-35-2		10042				EFSA
06.132	Vanillin butan-2,3-diol acetal (mixture of stereoisomers)	63253-24-7	960					EFSA
06.133	l-Menthone-1,2-glycerol ketal	563187-91-7	445					JECFA
06.135	2-Isobutyl-4-methyl-1,3-dioxolane	18433-93-7	1732					EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
06.136	6-Isopropyl-3,9-dimethyl-1,4-dioxyspiro[4.5]decan-2-one	831213-72-0	1859		Sum of isomers 98% with at least 60-70% (3S,5R,6S,9R)- 6-isopropyl-3,9-dimethyl-1,4-dioxyspiro[4.5]decan-2-one.			EFSA
06.137	Acetaldehyde ethyl isopropyl acetal	25334-93-4						EFSA
07.001	2-Oxopropanal	78-98-8	937	105				EFSA
07.002	Heptan-2-one	110-43-0	283	136				JECFA
07.003	Heptan-3-one	106-35-4	285	137				JECFA
07.004	Acetophenone	98-86-2	806	138				EFSA
07.005	Vanillyl acetone	122-48-5	730	139				EFSA
07.007	alpha-Ionone	127-41-3	388	141			2	JECFA/ EFSA
07.008	beta-Ionone	14901-07-6	389	142			2	JECFA/ EFSA
07.009	Methyl-alpha-ionone	7779-30-8	398	143	At least 90%; secondary component 5-6% methyl-beta-ionone		2	JECFA/ EFSA
07.010	Methyl-beta- ionone	127-43-5	399	144	At least 88%; secondary component 7-10% alpha- and beta-isomethylionone		2	JECFA/ EFSA
07.011	4-(2,5,6,6-Tetramethyl-2-cyclohexenyl)-3-buten-2-one	79-69-6	403	145			2	JECFA/ EFSA
07.012	Carvone	99-49-0	380	146				SCF/CoE
07.013	Methyl 2-naphthyl ketone	93-08-3	811	147				EFSA
07.014	Maltol	118-71-8	1480	148			2	EFSA
07.015	6-Methylhept-5-en-2-one	110-93-0	1120	149				EFSA
07.016	Undecan-2-one	112-12-9	296	150				JECFA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.017	4-Methylpentan-2-one	108-10-1	301	151				JECFA
07.018	Hexan-2,3-dione	3848-24-6	412	152	At least 93%; secondary components 2-3% hexanediones			JECFA
07.019	Octan-2-one	111-13-7	288	153				JECFA
07.020	Nonan-2-one	821-55-6	292	154				JECFA
07.021	Undeca-2,3-dione	7493-59-6	417	155				JECFA
07.022	4-Methylacetophenone	122-00-9	807	156				EFSA
07.023	2,4-Dimethylacetophenone	89-74-7	809	157				EFSA
07.024	4-Phenylbut-3-en-2-one	122-57-6	820	158			2	EFSA
07.025	4-Methyl-1-phenylpentan-2-one	5349-62-2	828	159				EFSA
07.026	4-(p-Tolyl)butan-2-one	7774-79-0	817	160				EFSA
07.027	3-Methyl-4-phenylbut-3-en-2-one	1901-26-4	821	161			2	EFSA
07.028	Benzoin	119-53-9	836	162				EFSA
07.029	4-(4-Methoxyphenyl)butan-2-one	104-20-1	818	163				EFSA
07.030	1-(4-Methoxyphenyl)pent-1-en-3-one	104-27-8	826	164			2	EFSA
07.031	Piperonyl acetone	55418-52-5		165				SCF/CoE
07.032	Benzophenone	119-61-9	831	166				EFSA
07.033	Isojasmane	11050-62-7	1115	167			2	EFSA
07.034	2-Hexylidenecyclopentan-1-one	17373-89-6	1106					EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.035	Tetramethyl ethylcyclohexenone (mixture of isomers)	17369-60-7	1111	168				EFSA
07.036	alpha-Isomethyl ionone	127-51-5	404	169			2	JECFA
07.038	4-Methoxyacetophenone	100-06-1	810	570				EFSA
07.040	1-Phenylpropan-1-one	93-55-0	824	599				EFSA
▼ <b>M10</b>								
07.041	beta-Isomethylionone	79-89-0		650	Mixture of E/Z isomers (50-70 % (E) and 30-50 % (Z))			EFSA
▼ <b>M1</b>								
07.042	4-Isopropylacetophenone	645-13-6	808	651				EFSA
07.044	Pent-3-en-2-one	625-33-2	1124	666			1	EFSA
07.045	2,2,6-Trimethylcyclohexanone	2408-37-9	1108	686				EFSA
07.046	Vanillylidene acetone	1080-12-2	732	691			2	EFSA
07.047	Ethyl maltol	4940-11-8	1481	692				EFSA
07.048	4-Hexen-3-one	2497-21-4	1125	718			1	EFSA
07.049	1-(4-Methoxyphenyl)-4-methylpent-1-en-3-one	103-13-9	829	719			2	EFSA
07.050	Acetone	67-64-1	139	737				JECFA
07.051	3-Hydroxybutan-2-one	513-86-0	405	749				JECFA
07.052	Diacetyl	431-03-8	408	752				JECFA
07.053	Butan-2-one	78-93-3	278	753				JECFA
07.054	Pentan-2-one	107-87-9	279	754				JECFA
07.055	4-(p-Hydroxyphenyl)butan-2-one	5471-51-2	728	755				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.056	3-Methylcyclopentan-1,2-dione	80-71-7	418	758				JECFA
07.057	3-Ethylcyclopentan-1,2-dione	21835-01-8	419	759	At least 90%; secondary component 5-10% 3-ethylcyclopentan-1,2-dione (enolic form)			JECFA
07.058	Heptan-4-one	123-19-3	287	2034				JECFA
07.059	p-Menthan-3-one	10458-14-7					1	EFSA
07.060	Pentan-2,3-dione	600-14-6	410	2039	At least 93%; secondary component 2-3% 2,5-diethylcyclohexadien-1,4-dione (dimer of 2,3-pentadione)			JECFA
07.061	Allyl alpha-ionone	79-78-7	401	2040			2	JECFA/ EFSA
07.062	Octan-3-one	106-68-3	290	2042				JECFA
07.063	4-Methylpentan-2,3-dione	7493-58-5	411	2043				JECFA
07.064	Heptan-2,3-dione	96-04-8	415	2044				JECFA
07.065	5-Hydroxyoctan-4-one	496-77-5	416	2045				JECFA
07.067	2R,5S-isopulegone	29606-79-9	754	2051			4	EFSA
07.069	Tetrahydro-pseudo-ionone	4433-36-7	1121	2053				EFSA
07.070	3-Benzylheptan-4-one	7492-37-7	830	2140				EFSA
07.071	Octane-4,5-dione	5455-24-3		2141				EFSA
07.072	6-Methylheptan-3-one	624-42-0		2143				EFSA
07.075	3,4-Dimethylcyclopentan-1,2-dione	13494-06-9	420	2234				JECFA
07.076	3,5-Dimethylcyclopentan-1,2-dione	13494-07-0	421	2235				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.077	Hexan-3,4-dione	4437-51-8	413	2255				JECFA
07.078	d,l-Isomenthone	491-07-6	430	2259				JECFA
07.079	1-Phenylpropan-1,2-dione	579-07-7	833	2275				EFSA
07.080	3-Methylcyclohexan-1,2-dione	3008-43-3	425	2311				JECFA
07.081	Oct-1-en-3-one	4312-99-6	1148	2312			1	EFSA
07.082	Oct-2-en-4-one	4643-27-0	1129	2313			1	EFSA
07.083	beta-Damascone	23726-92-3	384	2340	At least 90%; secondary components 5-8% alpha- and delta-damascone		2	JECFA/ EFSA
07.084	Pentan-3-one	96-22-0		2350				EFSA
07.086	1,3-Diphenylpropan-2-one	102-04-5	832	11839				EFSA
07.087	4-Methoxyphenylacetone	122-84-9	813	11836				EFSA
07.088	Methyl-delta-ionone	7784-98-7	400	11852			2	JECFA/ EFSA
07.089	Nootkatone	4674-50-4	1398	11164	At least 93%; secondary component 3-4% dihydronootkatone		2	EFSA
07.090	1-Hydroxybutan-2-one	5077-67-8	1717	11102				EFSA
07.091	gamma-Ionone	79-76-5	390				2	JECFA/ EFSA
07.092	p-Menthan-2-one	499-70-7	375	11128				JECFA
07.093	5-Methylhexan-2,3-dione	13706-86-0	414	11148				JECFA
07.094	3-Methyl-2-(pent-2(cis)-enyl)cyclopent-2-en-1-one	488-10-8	1114	11786			2	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.095	2-(sec-Butyl)cyclohexanone	14765-30-1	1109	11044	At least 94%; secondary component 2-2.5% 2-isobutyl cyclohexanone			EFSA
07.096	Hexan-3-one	589-38-8	281	11097				JECFA
07.097	3-(Hydroxymethyl)octan-2-one	59191-78-5	1839	11113	At least 90%; secondary component 7% 3-methylene-2-octanone			EFSA
07.098	3-Methylcyclohex-2-en-1-one	1193-18-6	1107	11134				EFSA
▼ <b>M10</b>								
07.099	6-Methylhepta-3,5-dien-2-one	1604-28-0	1134	11143	Mixture of E/Z stereoisomers: 60-90 % (E)			EFSA
▼ <b>M1</b>								
07.100	5-Methylhex-5-en-2-one	3240-09-3	1119	11150				EFSA
▼ <b>M10</b>								
07.101	4-Methylpent-3-en-2-one	141-79-7	1131	11853				EFSA
▼ <b>M1</b>								
07.102	Pent-1-en-3-one	1629-58-9	1147	11179			1	EFSA
07.103	Tridecan-2-one	593-08-8	298	11194				JECFA
07.104	Hept-2-en-4-one	4643-25-8	1126	11093			1	EFSA
07.105	Hept-3-en-2-one	1119-44-4	1127	11094			1	EFSA
07.106	5-Methylhex-3-en-2-one	5166-53-0	1132	11149			1	EFSA
07.107	Oct-3-en-2-one	1669-44-9	1128	11170	At least 94%; secondary component 4-6% 4-octen-2-one		1	EFSA
07.108	beta-Damascenone	23696-85-7	387	11197			2	JECFA/ EFSA
07.109	2,6,6-Trimethylcyclohex-2-en-1,4-dione	1125-21-9	1857	11200			2	EFSA
07.112	3-Methyl-2-cyclopenten-1-one	2758-18-1	1105	11137			2	EFSA
07.113	Nonan-3-one	925-78-0	294	11160				JECFA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.114	6,10,14-Trimethylpentadeca-5,9,13-trien-2-one	762-29-8	1123	11206				EFSA
07.115	3,4-Dehydrodihydro-beta-ionone	20483-36-7	396	11057	At least 70%; secondary component 25-27% tetrahydroionone			JECFA
07.117	3-Ethyl-2-hydroxy-4-methylcyclopent-2-en-1-one	42348-12-9	422	11077				JECFA
07.118	5-Ethyl-2-hydroxy-3-methylcyclopent-2-en-1-one	53263-58-4	423	11078				JECFA
07.119	2-Hydroxycyclohex-2-en-1-one	10316-66-2	424	11046				JECFA
07.120	2-Hydroxy-3,5,5-trimethylcyclohex-2-en-1-one	4883-60-7	426	11198				JECFA
07.121	Dec-3-en-2-one	10519-33-2	1130	11751			1	EFSA
07.122	2,6-Dimethylheptan-4-one	108-83-8	302	11914	At least 80%; secondary component 15-17% 4,6-dimethyl-2-heptanone			JECFA
07.123	Geranylacetone	3796-70-1	1122	11088				EFSA
07.124	2-Hydroxyacetophenone	118-93-4	727	11784				EFSA
07.125	3-Hydroxypentan-2-one	3142-66-3	409	11115				JECFA
07.126	3,5,5-Trimethylcyclohex-2-en-1-one	78-59-1	1112	11918				EFSA
07.127	p-Mentha-1,4(8)-dien-3-one	491-09-8	757	11189			2	EFSA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.128	Dihydrocarvone	7764-50-3	377	11703	At least 77%; secondary components 10-15% dihydrocarveol; 5-6% carvone; 2-3% carveol			JECFA
07.129	3-Methyl-5-propylcyclohex-2-en-1-one	3720-16-9	1113					EFSA
07.130	delta-Damascone	57378-68-4	386				2	JECFA/ EFSA
07.131	Dihydro-beta-ionone	17283-81-7	394	11060				JECFA
07.132	Dihydro-alpha-ionone	31499-72-6	393	11059				JECFA
07.134	alpha-Damascone	43052-87-5	385	11053			2	JECFA/ EFSA
07.135	2,4-Dihydroxyacetophenone	28631-86-9	729	11884	23-25% 2,3-isomer; 19-22% 2,4-isomer; 19-20% 2,5-isomer; 20-21% 3,4-isomer and 15-18% 3,5-isomer			EFSA
07.136	4,4a,5,6-Tetrahydro-7-methylnaphthalen-2(3H)-one	34545-88-5	1405				2	EFSA
07.137	Pentadecan-2-one	2345-28-0	299	11808				JECFA
07.139	5-Methylhept-2-en-4-one	81925-81-7	1133				1	EFSA
07.140	3-Methyl-2-pentylcyclopent-2-en-1-one	1128-08-1	1406				2	EFSA
07.142	Acetovanillone	498-02-2		11035				EFSA
07.146	d-Carvone	2244-16-8	380.1					JECFA
07.147	l-Carvone	6485-40-1	380.2					JECFA
07.148	Cyclohexanone	108-94-1	1100	11047				EFSA
07.149	Cyclopentanone	120-92-3	1101	11050				EFSA
07.150	Decan-2-one	693-54-9		11055				EFSA
07.151	Decan-3-one	928-80-3	1118	11056				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.152	3,3-Diethoxybutan-2-one	51933-13-2						EFSA
07.153	(4R,4aS,6R,8aS)-1,10-Dihydro-nootkatone	20489-53-6	1407		At least 90%; secondary component 5-6% nootkatone			EFSA
07.154	1-(3,5-Dimethoxy-4-hydroxyphenyl)propan-1-one	5650-43-1		11106				EFSA
07.156	2,6-Dimethyloct-6-en-3-one (mixture of E and Z)	90975-15-8						EFSA
07.157	6,10-Dimethylundecan-2-one	1604-34-8		11068				EFSA
07.158	Dodecan-2-one	6175-49-1		11069				EFSA
07.159	d-Fenchone	4695-62-9	1396	551				EFSA
07.160	Heptadecan-2-one	2922-51-2		11089				EFSA
07.161	Hex-1-en-3-one	1629-60-3					1	EFSA
07.162	Hex-5-en-2-one	109-49-9						EFSA
07.164	4-Hydroxy-3,5-dimethoxyacetophenone	2478-38-8		11105				EFSA
07.165	4-Hydroxy-4-methylpentan-2-one	123-42-2						EFSA
07.167	4-Hydroxyhexan-3-one	4984-85-4		11108				EFSA
07.168	2-Hydroxypiperitone	490-03-9						EFSA
07.169	1-Hydroxypropan-2-one	116-09-6		11101				EFSA
07.170	beta-Ionone epoxide	23267-57-4	1571	11202			2	EFSA



▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.171	Isopinocampnone	18358-53-7	1868	11125				EFSA
07.172	4-Isopropylcyclohex-2-en-1-one	500-02-7	1110	11127				EFSA
07.175	p-Menth-1-en-3-one	89-81-6	435	2052	At least 94%; secondary components 2-3% menthol and menthone			JECFA
07.176	trans-Menthone	89-80-5	429	2035				JECFA
07.177	7-Methyl-3-octenone-2	33046-81-0	1135		At least 94%; secondary components 2-4% 7-methyl-4-octen-2-one, 5,6-dimethyl-3-hepten-2one and 3-nonen-2-one		1	EFSA
07.178	3-Methylbutan-2-one	563-80-4		11131				EFSA
07.179	2-Methylcyclohexanone	583-60-8	1102					EFSA
07.180	3-Methylcyclohexanone	591-24-2	1103					EFSA
07.181	6-Methylheptan-2-one	928-68-7		11146				EFSA
07.182	5-Methylheptan-3-one	541-85-5						EFSA
07.184	3-Methylnona-2,4-dione	113486-29-6	2032				4	JECFA/ EFSA
07.185	3-Methylpentan-2-one	565-61-7		11157				EFSA
07.187	Non-2-en-4-one	32064-72-5		11162			1	EFSA
07.188	Non-3-en-2-one	14309-57-0	1136	11163			1	EFSA
07.189	Nonan-4-one	4485-09-0		11161				EFSA
▼ <b>M3</b>								
07.190	Octa-1,5-dien-3-one	65213-86-7	1848		Mixture of stereoisomers: 60-90 % E-form and 10-40 % Z-form			EFSA
▼ <b>M1</b>								
07.193	1-Phenylbutan-1-one	495-40-9						EFSA
07.194	4-Phenylbutan-2-one	2550-26-7		11182				EFSA
07.195	1-Phenylpropan-2-one	103-79-7		11042				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.196	Pin-2-en-4-one	80-57-9	1870	11186				EFSA
▼ <b>M3</b>								
07.198	Pseudo-ionone	141-10-6		11191				EFSA
▼ <b>M1</b>								
07.199	Tetradecan-2-one	2345-27-9		11192				EFSA
07.200	4-(2,5,6,6-Tetramethyl-1-cyclohexenyl)but-3-en-2-one	79-70-9					2	EFSA
07.201	Tridec-12-en-2-one	60437-21-0						EFSA
▼ <b>M3</b>								
07.202	2,6,6-Trimethylcyclohex-2-en-1-one	20013-73-4						EFSA
▼ <b>M1</b>								
07.203	3,3,5-Trimethylcyclohexan-1-one	873-94-9						EFSA
▼ <b>M3</b>								
07.204	3,3,6-Trimethylhepta-1,5-dien-4-one	546-49-6						EFSA
▼ <b>M1</b>								
07.205	6,10,14-Trimethylpentadecan-2-one	502-69-2		11205				EFSA
07.206	4-(2,3,6-Trimethylphenyl)but-3-en-2-one	56681-06-2					2	EFSA
07.210	1-Nonene-3-one	24415-26-7					1	EFSA
07.214	alpha-Methyl naphthyl ketone	941-98-0						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.215	d-Camphor	464-49-3	1395	140		In category 1 – not more than 16 mg/kg  In categories 2 and 8 – not more than 50 mg/kg  In category 3 – not more than 20 mg/kg  In categories 5, 6, 7, 12 and 15 – not more than 100 mg/kg  In category 14.1 – not more than 50 mg/l  In category 14.2 – not more than 50 mg/l (except not more than 850 mg/l in <i>Schwe-denbitter</i> )		EFSA
07.219	trans-3-Methyl-2-(2-pentenyl)-2-cyclopenten-1-one	6261-18-3					2	EFSA
▼ <b>M10</b>								
07.224	trans-1-(2,6,6-Trimethyl-1-cyclohexen-1-yl)but-2-en-1-one	23726-91-2			At least 90%; secondary components 2-4% alpha-damascone and 2-4% delta-damascone			EFSA
▼ <b>M1</b>								
07.225	cis-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)but-2-en-1-one	23726-94-5			At least 92%; secondary component 4% trans-isomer		2	EFSA
07.226	trans-1-(2,6,6-Trimethyl-2-cyclohexen-1-yl)but-2-en-1-one	24720-09-0					2	EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.231	alpha-Damascenone	35044-63-4					2	EFSA
07.234	1-(4-Hydroxy-3-methoxyphenyl)-3-decanone	27113-22-0	2021					EFSA
07.236	(Z)-5-Octen-2-one	22610-86-2		11171				EFSA
07.238	3-Hydroxy-2-octanone	37160-77-3						EFSA
07.239	[R-(E)]-5-Isopropyl-8-methylnona-6,8-dien-2-one	2278-53-7	1840					EFSA
07.240	2-Methylheptan-3-one	13019-20-0	1156					EFSA
07.242	3-Hydroxy-4-phenylbutane-2-one	5355-63-5	2041		At least 93%; secondary component 3-5% 4-hydroxy-4-phenylbutan-2-one			EFSA
07.243	4-Hydroxyacetophenone	99-93-4						EFSA
07.244	(6E)-Methyl-3-hepten-2-one	20859-10-3	1138				1	EFSA
07.247	(E,E)-3,5-Octadien-2-one	30086-02-3	1139				1	EFSA
07.248	Octan-2,3-dione	585-25-1						EFSA
07.249	Undecan-6-one	927-49-1	1155					EFSA
07.254	2-Methoxy-acetophenone	579-74-8						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
07.255	l-Piperitone	4573-50-6	1856					EFSA
07.256	(E) & (Z)-4,8-Dimethyl-3,7-nonadiene-2-one	817-88-9	1137		At least 94%; secondary component 3-4% 4,8-dimethyl-3,7-nonadien-2-ol		1	EFSA
07.257	2-(3,7-Dimethyl-2,6-octadienyl)cyclopentanone	68133-79-9	1117					EFSA
07.258	6-Methyl-3-hepten-2-one	2009-74-7					1	EFSA
07.259	2-Methyl-acetophenone	577-16-2	2044					EFSA
07.260	3-Hydroxy-5-methyl-2-hexanone	163038-04-8						EFSA
07.261	4-Methyl-3-hepten-5-one	22319-31-9					1	EFSA
07.262	9-decen-2-one	35194-30-0						EFSA
08.001	Formic acid	64-18-6	79	1				JECFA
08.002	Acetic acid	64-19-7	81	2				JECFA
08.003	Propionic acid	79-09-4	84	3				JECFA
08.004	Lactic acid	50-21-5	930	4				EFSA
08.005	Butyric acid	107-92-6	87	5				JECFA
08.006	2-Methylpropionic acid	79-31-2	253	6				JECFA
08.007	Valeric acid	109-52-4	90	7				JECFA
08.008	3-Methylbutyric acid	503-74-2	259	8				JECFA
08.009	Hexanoic acid	142-62-1	93	9				JECFA
08.010	Octanoic acid	124-07-2	99	10				JECFA
08.011	Decanoic acid	334-48-5	105	11				JECFA

▼ **M3**▼ **M1**▼ **M3**▼ **M1**

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.012	Dodecanoic acid	143-07-7	111	12	At least 90%; secondary components 3-6% tetradecanoic acid; 2-5% decanoic acid; 1-2% hexadecanoic acid			JECFA
08.013	Oleic acid	112-80-1	333	13	At least 90%; secondary component 5-7% palmitic acid and other fatty acids			JECFA
08.014	Hexadecanoic acid	57-10-3	115	14	At least 80%; secondary components 8-11% octadecanoic acid; 5-7% tetradecanoic acid; 3-5% heptadecanoic acid; <1% pentadecanoic acid			JECFA
08.015	Octadecanoic acid	57-11-4	116	15	At least 40%; secondary components 5-50% hexadecanoic acid; <3% tetradecanoic acid; <5% 9-octadecenoic acid; <3% heptadecanoic acid; <2% eicosanoic acid; <1% pentadecanoic acid			JECFA
08.016	Tetradecanoic acid	544-63-8	113	16	At least 94%; secondary components 2-4% hexadecanoic acid; 1-3% dodecanoic acid			JECFA
08.017	l-Malic acid	6915-15-7	619	17				JECFA
08.018	Tartaric acid	133-37-9	621	18				JECFA
08.019	Pyruvic acid	127-17-3	936	19				EFSA
08.021	Benzoic acid	65-85-0	850	21				EFSA
08.022	Cinnamic acid	621-82-9	657	22				EFSA
08.023	4-Oxovaleric acid	123-76-2	606	23				JECFA
08.024	Succinic acid	110-15-6		24				CoE
08.025	Fumaric acid	110-17-8	618	25				JECFA
08.026	Adipic acid	124-04-9	623	26				JECFA
08.028	Heptanoic acid	111-14-8	96	28				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.029	Nonanoic acid	112-05-0	102	29				JECFA
08.031	2-Methylvaleric acid	97-61-0	261	31				JECFA
08.032	3-Phenylpropionic acid	501-52-0	646	32				EFSA
08.033	Prop-1-ene-1,2,3-tricarboxylic acid	499-12-7	627	33				JECFA
08.034	Cyclohexylacetic acid	5292-21-7	965	34				EFSA
08.035	2-Methylhexanoic acid	4536-23-6	265	582				JECFA
08.036	Citronellic acid	502-47-6	1221	616	At least 90%; secondary components 5-8% citronellal, citronellyl, neryl, and geranyl acetate esters and other naturally occurring terpenes			EFSA
08.037	2-Oxoglutaric acid	328-50-7	634	653				JECFA
08.038	Phenylacetic acid	103-82-2	1007	672				EFSA
08.039	Undec-10-enoic acid	112-38-9	331	689				JECFA
08.040	4-Hydroxybenzoic acid	99-96-7	957	693				EFSA
08.041	Octadeca-9,12-dienoic acid	60-33-3	332	694	44-46% linolenic acid; 18-20% linoleic acid; 22-25% stearic and oleic acid; 7-8% palmitic acid			JECFA
08.042	Undecanoic acid	112-37-8	108	696				JECFA
08.043	Vanillic acid	121-34-6	959	697				EFSA
08.044	(2E),4-Dimethylpent-2-enoic acid	21016-46-6	1211	744	At least 92%; secondary component 5-7% 4-methyl-2-methylenevaleric acid.			EFSA
08.045	2-Ethylbutyric acid	88-09-5	257	2001				JECFA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.046	2-Methylbutyric acid	116-53-0	255	2002				JECFA
08.047	2-Methylheptanoic acid	1188-02-9	1212	2003				EFSA
08.048	Pent-4-enoic acid	591-80-0	314	2004				JECFA
08.049	Phenoxyacetic acid	122-59-8	1026	2005				EFSA
08.050	Hex-3-enoic acid	4219-24-3	317	2256				JECFA
08.051	3-Methyl-2-oxobutyric acid	759-05-7	631	2262				JECFA
08.052	4-Methyl-2-oxovaleric acid	816-66-0	633	2263				JECFA
08.053	Malonic acid	141-82-2		2264				EFSA
08.054	Hex-2(trans)-enoic acid	13419-69-7	1361	11777				EFSA
08.055	2-Methyl-2-pentenoic acid	3142-72-1	1210	11680				EFSA
08.056	3-Methylvaleric acid	105-43-1	262	10149				JECFA
08.057	4-Methylvaleric acid	646-07-1	264	10150				JECFA
08.058	2-Methylpent-3-enoic acid	37674-63-8	347	10147				JECFA
08.059	2-Methylpent-4-enoic acid	1575-74-2	355	10148				JECFA
08.060	Cyclohexanecarboxylic acid	98-89-5	961	11911				EFSA
08.061	5-Methylhexanoic acid	628-46-6	266	10142				JECFA
08.062	4-Methylnonanoic acid	45019-28-1	274	11925				JECFA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.063	4-Methyloctanoic acid	54947-74-9	271	11926				JECFA
08.064	(2E)-Methylcrotonic acid	80-59-1	1205	10168				EFSA
08.065	Dec-9-enoic acid	14436-32-9	328	10090				JECFA
08.066	2-Oxobutyric acid	600-18-0	589					JECFA
08.067	1,2,5,6-Tetrahydrocuminic acid	71298-42-5	976					EFSA
08.068	Dec-(5- and 6)-enoic acid	72881-27-7	327					JECFA
08.070	3-Methylcrotonic acid	541-47-9	1204	10138				EFSA
08.071	p-Anisic acid	100-09-4	883	10077				EFSA
08.072	But-2-enoic acid (cis and trans)	3724-65-0		10080				EFSA
08.073	Dec-2-enoic acid	3913-85-7	1372	10087				EFSA
08.074	Dec-3-enoic acid	15469-77-9		10088				EFSA
08.075	Dec-4-enoic acid	26303-90-2	1287	10089				EFSA
08.076	2,4-Dihydroxybenzoic acid	89-86-1	908					EFSA
08.078	2-Ethylhexanoic acid	149-57-5						EFSA
08.079	4-Ethyl octanoic acid	16493-80-4	1218					EFSA
08.080	Gallic acid	149-91-7		10170				EFSA
08.081	Geranic acid	459-80-3	1825	10094				EFSA
08.082	Glutaric acid	110-94-1						EFSA
08.083	Hept-2-enoic acid	18999-28-5		10102				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.085	(E,E)-Hexa-2,4-dienoic acid	110-44-1	1176					EFSA
08.086	3-Hydroxy-2-oxopropionic acid	1113-60-6	635					JECFA
08.087	4-Hydroxy-3,5-dimethoxybenzoic acid	530-57-4		10111				EFSA
08.088	4-Hydroxy-3,5-dimethoxycinnamic acid (mixture of isomers)	530-59-6						EFSA
08.089	4-Hydroxy-3-methoxycinnamic acid (mixture of isomers)	1135-24-6		10113				EFSA
08.090	2-Hydroxy-4-methylvaleric acid	498-36-2		10118				EFSA
08.092	3-Methoxybenzoic acid	586-38-9	882					EFSA
08.093	3-Methyl-2-oxovaleric acid	39748-49-7	632	10146				JECFA
08.094	4-Methyldecanoic acid	24323-24-8						EFSA
08.095	8-Methyldecanoic acid	5601-60-5						EFSA
08.096	3-Methylhexanoic acid	3780-58-3						EFSA
08.097	4-Methylhexanoic acid	1561-11-1						EFSA
08.099	4-Methylpent-2-enoic acid	10321-71-8	1818					EFSA
08.100	4-Methylpent-3-enoic acid	504-85-8						EFSA
08.101	Non-2-enoic acid	3760-11-0		10153				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.102	Non-3-enoic acid	4124-88-3		10154				EFSA
08.103	Nonanedioic acid	123-99-9		10079				EFSA
08.107	(E)-Pent-2-enoic acid	13991-37-2	1804	10163				EFSA
08.108	2-Phenylpropionic acid	492-37-5		10164				EFSA
08.109	3-Phenylpyruvic acid	156-06-9	1478					EFSA
08.112	Salicylic acid	69-72-7	958	10165				EFSA
08.113	Succinic acid, disodium salt	150-90-3						EFSA
08.114	2-Octenoic acid	1871-67-6	1805	10156				EFSA
08.115	4-Methylheptanoic acid	3302-03-2						EFSA
08.119	2-Hexenoic acid	1191-04-4		11777				EFSA
08.120	2-Methyl-2-butenic acid	13201-46-2		10168				EFSA
08.123	trans-2-Heptenoic acid	10352-88-2	1373					EFSA
08.127	2-(4-Methoxyphenoxy)propionic acid	158833-38-6						EFSA
08.131	cis-2-Heptyl-cyclopropane-carboxylic acid	697290-76-9	1907					EFSA
08.132	3-Hydroxybenzoic acid	99-06-9						EFSA
08.133	3,4-Dihydroxybenzoic acid	99-50-3						EFSA
08.134	4-Hydroxy-3-methoxy-mandelic acid	55-10-7						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
08.135	4-(2,2,3-trimethylcyclopentyl)butanoic acid	957136-80-0						EFSA
09.001	Ethyl acetate	141-78-6	27	191				JECFA
09.002	Propyl acetate	109-60-4	126	192				JECFA
09.003	Isopropyl acetate	108-21-4	305	193				JECFA
09.004	Butyl acetate	123-86-4	127	194				JECFA
09.005	Isobutyl acetate	110-19-0	137	195				JECFA
09.006	Hexyl acetate	142-92-7	128	196				JECFA
09.007	Octyl acetate	112-14-1	130	197				JECFA
09.008	Nonyl acetate	143-13-5	131	198				JECFA
09.009	Decyl acetate	112-17-4	132	199				JECFA
09.010	Dodecyl acetate	112-66-3	133	200				JECFA
09.011	Geranyl acetate	105-87-3	58	201	At least 90%; secondary components 4-6% geraniol and 1-2% nerol			JECFA
09.012	Citronellyl acetate	150-84-5	57	202	At least 92%; secondary component 4-6% citronellol			JECFA
09.013	Linalyl acetate	115-95-7	359	203				JECFA
09.014	Benzyl acetate	140-11-4	23	204				EFSA
09.015	alpha-Terpinyl acetate	80-26-2	368	205				SCF/CoE
▼ <b>M3</b> 09.016	Menthyl acetate	16409-45-3	431	206				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.017	DL-Bornyl acetate	76-49-3	1387	207				EFSA
09.018	Cinnamyl acetate	103-54-8	650	208				EFSA
09.019	p-Anisyl acetate	104-21-2	873	209				EFSA
09.020	Eugenyl acetate	93-28-7	1531	210				EFSA
09.021	Pentyl acetate	628-63-7		211				SCF/CoE
09.022	Heptyl acetate	112-06-1	129	212				JECFA
09.023	Methyl acetate	79-20-9	125	213				JECFA
09.024	Isopentyl acetate	123-92-2	43	214				JECFA
09.025	2-Ethylbutyl acetate	10031-87-5	140	215				JECFA
09.026	alpha-Pentylcinnamyl acetate	7493-78-9	677	216				EFSA
09.027	Cyclohexyl acetate	622-45-7	1093	217				EFSA
09.028	2-Cyclohexylethyl acetate	21722-83-8	964	218				EFSA
09.029	1,1-Dimethyl-3-phenylpropyl acetate	103-07-1	1460	219				EFSA
09.030	2-Methoxy-4-(prop-1-enyl)phenyl acetate	93-29-8	1262	220				EFSA
09.031	Phenethyl acetate	103-45-7	989	221				EFSA
09.032	3-Phenylpropyl acetate	122-72-5	638	222				EFSA
09.033	Rhodinyl acetate	141-11-7	60	223	At least 87%; secondary component 9-12% rhodinol			JECFA
09.034	Santalyl acetate	1323-00-8	985	224			2	EFSA
09.035	Vanillyl acetate	881-68-5	890	225				EFSA
09.036	p-Tolyl acetate	140-39-6	699	226				EFSA
09.037	Ethyl acrylate	140-88-5	1351	245				EFSA
09.038	Methyl butyrate	623-42-7	149	263				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.039	Ethyl butyrate	105-54-4	29	264				JECFA
09.040	Propyl butyrate	105-66-8	150	266				JECFA
09.041	Isopropyl butyrate	638-11-9	307	267				JECFA
09.042	Butyl butyrate	109-21-7	151	268				JECFA
09.043	Isobutyl butyrate	539-90-2	158	269				JECFA
09.044	Pentyl butyrate	540-18-1	152	270				JECFA
09.045	Hexyl butyrate	2639-63-6	153	271				JECFA
09.046	Octyl butyrate	110-39-4	155	272				JECFA
09.047	Decyl butyrate	5454-09-1	156	273				JECFA
09.048	Geranyl butyrate	106-29-6	66	274	At least 92%; secondary components 3-5% geraniol and 1% nerol			JECFA
09.049	Citronellyl butyrate	141-16-2	65	275	At least 90%; secondary component 6-8% citronellol			JECFA
09.050	Linalyl butyrate	78-36-4	361	276				JECFA
09.051	Benzyl butyrate	103-37-7	843	277				EFSA
09.052	Terpinyl butyrate	2153-28-8	370	278				JECFA
09.053	Cinnamyl butyrate	103-61-7	652	279				EFSA
09.054	Allyl butyrate	2051-78-7	2	280			2	JECFA
09.055	3-Methylbutyl butyrate	106-27-4	45	282				JECFA
09.057	2-Phenylpropyl butyrate	80866-83-7	1469	285				EFSA
09.058	p-Anisyl butyrate	6963-56-0	875	286				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.059	Ethyl decanoate	110-38-3	35	309				JECFA
09.060	Ethyl hexanoate	123-66-0	31	310				JECFA
09.061	Propyl hexanoate	626-77-7	161	311				JECFA
09.062	Isopropyl hexanoate	2311-46-8	308	312				JECFA
09.063	Butyl hexanoate	626-82-4	162	313				JECFA
09.064	Isobutyl hexanoate	105-79-3	166	314				JECFA
09.065	Pentyl hexanoate	540-07-8	163	315				JECFA
09.066	Hexyl hexanoate	6378-65-0	164	316				JECFA
09.067	Geranyl hexanoate	10032-02-7	70	317				JECFA
09.068	Linalyl hexanoate	7779-23-9	364	318				JECFA
09.069	Methyl hexanoate	106-70-7	1871	319				SCF/CoE
09.070	3-Methylbutyl hexanoate	2198-61-0	46	320				JECFA
09.071	3-Phenylpropyl hexanoate	6281-40-9	642	321				EFSA
09.072	Ethyl formate	109-94-4	26	339				JECFA
09.073	Propyl formate	110-74-7	117	340	At least 94%; secondary component 4-6% propyl alcohol			JECFA
09.074	Heptyl formate	112-23-2	121	341	At least 94%; secondary component 1-5% heptanal			JECFA
09.075	Octyl formate	112-32-3	122	342				JECFA
09.076	Geranyl formate	105-86-2	54	343	At least 85%; secondary components 8-10% geraniol and 2-4% nerol			JECFA
09.077	Benzyl formate	104-57-4	841	344				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.078	Citronellyl formate	105-85-1	53	345	At least 90%; secondary component 5-10% citronellol			JECFA
09.079	Rhodinyl formate	141-09-3	56	346	At least 85%; secondary component 10-13% rhodinol			JECFA
09.080	Linalyl formate	115-99-1	358	347	At least 90%; secondary component 6-8% linalool			JECFA
09.081	alpha-Terpinyll formate	2153-26-6	367	348				JECFA
09.082	DL-Bornyl formate	7492-41-3	1389	349				EFSA
09.083	Phenethyl formate	104-62-1	988	350				EFSA
09.084	3-Phenylpropyl formate	104-64-3	637	351				EFSA
09.085	Cinnamyl formate	104-65-4	649	352				EFSA
09.086	2-Methyl-1-phenyl-2-propyl formate	10058-43-2	1654	353	At least 93%; secondary component 5-7% alpha,alpha-dimethylphenethyl alcohol			EFSA
09.087	p-Anisyl formate	122-91-8	872	354	At least 90%; secondary component 8% anisyl alcohol			EFSA
09.088	Eugenyl formate	10031-96-6	1530	355	At least 94%; secondary component 2-3% eugenol			EFSA
09.089	Isoeugenyl formate	7774-96-1	1261	356				EFSA
09.090	alpha-Pentylcinnamyl formate	7493-79-0	676	357	At least 85%; secondary component 10-12% alpha-amylcinnamyl alcohol			EFSA
09.091	Butyl heptanoate	5454-28-4	169	363				JECFA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.092	Isobutyl heptanoate	7779-80-8	172	364				JECFA
09.093	Ethyl heptanoate	106-30-9	32	365				JECFA
09.094	Octyl heptanoate	5132-75-2	171	366				JECFA
09.095	Propyl heptanoate	7778-87-2	168	367				JECFA
09.096	Methyl heptanoate	106-73-0	167	368				JECFA
09.097	Allyl heptanoate	142-19-8	4	369			2	JECFA
09.098	Pentyl heptanoate	7493-82-5	170	370	At least 93%; secondary component 4-7% n-amyl 2-methylhexanoate			JECFA
09.099	Ethyl dodecanoate	106-33-2	37	375				JECFA
09.100	Butyl dodecanoate	106-18-3	181	376				JECFA
09.101	Methyl dodecanoate	111-82-0	180	377	At least 94%; secondary components 3-6% methyl tetradecanoate; 2-5% methyl decanoate; 1-2% methyl hexadecanoate			JECFA
09.102	p-Tolyl dodecanoate	10024-57-4	704	378	At least 90%; secondary components 3-6% p-tolyl tetradecanoate; 2-5% p-tolyl decanoate; 1-2% p-tolyl hexadecanoate			EFSA
09.103	3-Methylbutyl dodecanoate	6309-51-9	182	379				JECFA
09.104	Ethyl tetradecanoate	124-06-1	38	385				JECFA
09.105	Isopropyl tetradecanoate	110-27-0	311	386				JECFA
09.106	Methyl tetradecanoate	124-10-7	183	387				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.107	Ethyl nonanoate	123-29-5	34	388				JECFA
09.108	Methyl nonanoate	1731-84-6	179	389				JECFA
09.109	Allyl nonanoate	7493-72-3	6	390			2	JECFA
09.110	3-Methylbutyl nonanoate	7779-70-6	48	391				JECFA
09.111	Ethyl octanoate	106-32-1	33	392				JECFA
09.112	Pentyl octanoate	638-25-5	174	393				JECFA
09.113	Hexyl octanoate	1117-55-1	175	394				JECFA
09.114	Octyl octanoate	2306-88-9	177	395				JECFA
09.115	Nonyl octanoate	7786-48-3	178	396				JECFA
09.116	Linalyl octanoate	10024-64-3	365	397	At least 93%; secondary components 2-3% linalool and 2-3% octanoic acid			JECFA
09.117	Methyl octanoate	111-11-5	173	398				JECFA
09.118	Heptyl octanoate	4265-97-8	176	399				JECFA
09.119	Allyl octanoate	4230-97-1	5	400			2	JECFA
09.120	3-Methylbutyl octanoate	2035-99-6	47	401				JECFA
09.121	Ethyl propionate	105-37-3	28	402				JECFA
09.122	Propyl propionate	106-36-5	142	403				JECFA
09.123	Isopropyl propionate	637-78-5	306	404				JECFA
09.124	Butyl propionate	590-01-2	143	405				JECFA
09.125	Isobutyl propionate	540-42-1	148	406				JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.126	Octyl propionate	142-60-9	145	407				JECFA
09.127	Decyl propionate	5454-19-3	146	408				JECFA
09.128	Geranyl propionate	105-90-8	62	409	At least 92%; secondary components 3-4% geraniol and 1-2% nerol			JECFA
09.129	Citronellyl propionate	141-14-0	61	410	At least 90%; secondary component 5-8% citronellol			JECFA
09.130	Linalyl propionate	144-39-8	360	411	At least 94%; secondary component 2-5% linalool			JECFA
▼ <b>M3</b>								
09.131	DL-Isobornyl propionate	2756-56-1	1391	412				EFSA
09.132	Benzyl propionate	122-63-4	842	413				EFSA
▼ <b>M1</b>								
09.133	Cinnamyl propionate	103-56-0	651	414				EFSA
09.134	Methyl propionate	554-12-1	141	415				JECFA
09.135	Pentyl propionate	624-54-4		416				SCF/CoE
09.136	3-Methylbutyl propionate	105-68-0	44	417				JECFA
09.137	Phenethyl propionate	122-70-3	990	418				EFSA
09.138	3-Phenylpropyl propionate	122-74-7	639	419				EFSA
09.139	Hexyl propionate	2445-76-3	144	420				JECFA
09.140	Cyclohexyl propionate	6222-35-1	1097	421				EFSA
09.141	Rhodinyl propionate	105-89-5	64	422				JECFA
09.142	Terpinyl propionate	80-27-3	369	423				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.143	Carvyl propionate	97-45-0	383	424				JECFA
09.144	1-Phenethyl propionate	120-45-6	802	425				EFSA
09.145	p-Anisyl propionate	7549-33-9	874	426				EFSA
09.146	Allyl undec-10-enoate	7493-76-7	9	441			2	JECFA
09.147	Ethyl valerate	539-82-2	30	465				JECFA
09.148	Butyl valerate	591-68-4	160	466				JECFA
09.149	Pentyl valerate	2173-56-0		467				SCF/CoE
09.150	(E)-Geranyl valerate	10402-47-8	1821	468				EFSA
09.151	Citronellyl valerate	7540-53-6	69	469	At least 85%; secondary component 10-12% rhodinol			JECFA
09.152	Benzyl valerate	10361-39-4		470				EFSA
09.153	DL-Bornyl valerate	7549-41-9	1392	471				EFSA
09.154	Menthyl valerate	89-47-4	1852	472				EFSA
09.156	Methyl 2-nonynoate	111-80-8	1356	479				EFSA
09.157	Ethyl 2-nonynoate	10031-92-2	1352	480				EFSA
09.158	Methyl 2-octynoate	111-12-6	1357	481				EFSA
09.159	Pentyl formate	638-49-3	119	497	At least 92%; secondary component 4-8% n-amyl alcohol			JECFA
09.160	Cyclohexyl formate	4351-54-6	1095	498				EFSA
09.161	Hexyl formate	629-33-4	120	499				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.162	3-Methylbutyl formate	110-45-2	42	500	At least 92%; secondary component 4-8% isoamyl alcohol			JECFA
09.163	Butyl formate	592-84-7	118	501				JECFA
09.164	Isobutyl formate	542-55-2	124	502	At least 94%; secondary component 4-6% isobutyl alcohol			JECFA
09.165	Isopropyl formate	625-55-8	304	503				JECFA
09.166	Heptyl butyrate	5870-93-9	154	504				JECFA
09.167	Neryl butyrate	999-40-6	67	505				JECFA
09.168	Phenethyl butyrate	103-52-6	991	506				EFSA
09.169	Neryl propionate	105-91-9	63	509				JECFA
09.171	Cedryl acetate	77-54-3		527				EFSA
09.174	2-Methoxyphenyl acetate	613-70-7	718	552				EFSA
09.176	DL-Isobornyl formate	1200-67-5	1390	565				EFSA
09.178	1-Phenethyl acetate	93-92-5	801	573				EFSA
09.179	1-Phenethyl formate	7775-38-4	800	574				EFSA
09.180	Methyl hexadecanoate	112-39-0		581				EFSA
09.181	Methyl hex-2-enoate	2396-77-2		583				EFSA
09.182	Methyl valerate	624-24-8	159	588				JECFA
09.185	2-Oxopropyl acetate	592-20-1		607				SCF/CoE
09.186	sec-Butan-3-onyl acetate	4906-24-5	406	608				JECFA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.188	Pentyl decanoate	5933-87-9		611				SCF/CoE
09.189	1-Phenylpropyl butyrate	10031-86-4	823	628				EFSA
09.191	Ethyl hex-3-enoate	2396-83-0	335					JECFA
09.192	Ethyl oleate	111-62-6	345	633				JECFA
09.193	Ethyl hexadecanoate	628-97-7	39	634				JECFA
09.194	Ethyl (E,E)-hexa-2,4-dienoic acid	2396-84-1	1178	635				EFSA
09.197	Hex-3(cis)-enyl acetate	3681-71-8	134	644				JECFA
09.198	Isopentyl valerate	2050-09-1		648				SCF/CoE
09.200	1-Methyl-3-phenylpropyl acetate	10415-88-0	816	671				EFSA
09.201	Phenethyl valerate	7460-74-4		673				EFSA
09.202	Propyl valerate	141-06-0		679				SCF/CoE
09.204	Ethyl octadeca-9,12-dienoate	544-35-4		711				SCF/CoE
09.205	Ethyl octadeca-9,12,15-trienoate	1191-41-9		712				SCF/CoE
09.208	Butyl oleate	142-77-8		741				SCF/CoE
09.209	Butyl octanoate	589-75-3		742				SCF/CoE
09.210	Ethyl octadecanoate	111-61-5	40	745	At least 89%; secondary components 6-7% ethyl palmitate and ethyl esters of other fatty acid			JECFA
09.211	Glyceryl tributyrate	60-01-5	922	747				EFSA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.212	Neryl formate	2142-94-1	55	2060	At least 90%, secondary components 4-6% geraniol, 1-3% nerol and formate esters of citronellol, geraniol and rhodinol			JECFA
09.213	Neryl acetate	141-12-8	59	2061				JECFA
09.214	Undec-10-enyl acetate	112-19-6	136	2062				JECFA
09.215	Carvyl acetate	97-42-7	382	2063				JECFA
09.216	Dihydrocarvyl acetate	20777-49-5	379	2064				JECFA
09.218	DL-Isobornyl acetate	125-12-2	1388	2066				EFSA
09.219	1R,2S,5R-isopulegyl acetate	57576-09-7	756	2067			4	EFSA
09.220	Piperonyl acetate	326-61-4	894	2068				EFSA
09.225	1,3-Nonanediol acetate	1322-17-4	605	2075				JECFA
09.227	1,1-Dimethyl-2-phenethyl acetate	151-05-3	1655	2077				EFSA
09.228	o-Tolyl acetate	533-18-6	698	2078				EFSA
09.230	Cyclohexyl butyrate	1551-44-6	1094	2082				EFSA
09.231	1-Phenethyl butyrate	3460-44-4	803	2083				EFSA
09.232	1,1-Dimethyl-2-phenethyl butyrate	10094-34-5	1656	2084				EFSA
09.233	Allyl propionate	2408-20-0	1	2094				JECFA
09.234	Methyl non-2-enoate	111-79-5	1813	2099				EFSA
09.235	Butyl dec-2-enoate	7492-45-7	1348	2100				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.236	Methyl undec-9-enoate	5760-50-9	342	2101				JECFA
09.237	Ethyl undec-10-enoate	692-86-4	343	10634				JECFA
09.238	Butyl undec-10-enoate	109-42-2	344	2103				JECFA
09.239	Methyl 2-undecynoate	10522-18-6	1358	2111				EFSA
09.240	Hex-3(cis)-enyl formate	33467-73-1	123	2153				JECFA
09.244	Allyl hexanoate	123-68-2	3	2181			2	JECFA
09.246	Butyl octadecanoate	123-95-5	184	2189				JECFA
09.247	Allyl crotonate	20474-93-5		2222			2	EFSA
09.248	Ethyl trans-2-butenate	623-70-1		2244				EFSA
09.249	1-Methyl-2-phenethyl butyrate	68922-11-2	814	2276				EFSA
09.250	Isobutyl valerate	10588-10-0		2303				SCF/CoE
09.251	Methyl decanoate	110-42-9		2304				SCF/CoE
09.253	2-Isopropyl-5-methylphenyl acetate	528-79-0		2308				EFSA
09.254	3-Octyl acetate	4864-61-3	313	2347				JECFA
09.256	Propyl nonanoate	6513-03-7		2351				SCF/CoE
09.258	D- Glucose pentaacetate	3891-59-6						EFSA
09.260	Ethyl (E,Z)-deca-2,4-dienoate	3025-30-7	1192	10574				EFSA



▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.261	2-Phenethyl hexanoate	6290-37-5	995	10882				EFSA
09.262	Phenethyl octanoate	5457-70-5	996	10884				EFSA
09.263	Glyceryl tripropionate	139-45-7	921	10657				EFSA
09.264	sec-Butan-3-onyl butyrate	84642-61-5	407	10525				JECFA
09.265	Ethyl oct-4-enoate	34495-71-1	338	10619				JECFA
▼ <u>M3</u>								
09.266	Hexyl 2-butenate	19089-92-0	1807	10688				EFSA
▼ <u>M1</u>								
09.267	Methyl hex-3-enoate	2396-78-3	334	10801				JECFA
09.268	Methyl oct-4(cis)-enoate	21063-71-8	337	10834				JECFA
09.269	Fenchyl acetate	13851-11-1	1399	11769				EFSA
09.270	Hex-3-enyl butyrate	16491-36-4	157	11859				JECFA
09.271	Hex-3-enyl hexanoate	31501-11-8	165	11779				JECFA
▼ <u>M12</u>								
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▼ <u>M1</u>								
09.273	Isobutyl crotonate	589-66-2	1206	10706				EFSA
09.274	Ethyl undecanoate	627-90-7	36	10633				JECFA
09.275	Hept-3(trans)-enyl acetate	1576-77-8	135	10662				JECFA
09.276	Oct-2-enyl acetate	3913-80-2	1367	11906			2	EFSA
09.277	Oct-2(trans)-enyl butyrate	84642-60-4	1368	11907			2	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.278	p-Mentha-1,8-dien-7-yl acetate	15111-96-3	975	10742		In categories 1, 3, 5, 6, 7, 8, 14.1, 14.2 and 16	1	EFSA
09.280	Nonane-1,4-diyl diacetate	67715-81-5	609	11927	At least 92%; secondary component 5-8% monoacetate			JECFA
09.281	Oct-1-en-3-yl acetate	2442-10-6	1836	11716			1	EFSA
09.282	Oct-1-en-3-yl butyrate	16491-54-6	1837				1	EFSA
09.283	(E)-Ethyl dec-2-enoate	7367-88-6	1814	10577				EFSA
09.284	Ethyl dec-4-enoate	76649-16-6	341	10578				JECFA
09.285	Ethyl oct-2(trans)-enoate	7367-82-0	1812	10617				EFSA
09.286	2-Methylbutyl acetate	624-41-9	138	10762				JECFA
09.287	Propyl deca-2,4-dienoate	28316-62-3		10889				EFSA
09.288	4-(4-Acetoxyphenyl)butan-2-one	3572-06-3	731		At least 93%; secondary component 2-5% ortho-isomer.			EFSA
09.289	alpha-Campholene acetate	36789-59-0	969					EFSA
09.290	Ethyl octa-4,7-dienoate	69925-33-3	339					JECFA
09.291	Hex-3-enyl hex-3-enoate	61444-38-0	336					JECFA
09.292	Hexyl 2-hexenoate	33855-57-1	1810		At least 92%; secondary component 6-8% hexyl trans-3-hexenoate			EFSA
09.294	2-Methylbenzyl acetate	17373-93-2	863		At least 98% (sum of o,m,p-isomers)			EFSA
09.298	Methyl non-3-enoate	13481-87-3	340					JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.299	Methyl oct-2(trans)-enoate	7367-81-9	1811	11800	At least 90%; secondary component 5-6% methyl trans-3-octenoate			EFSA
09.300	Methyl (E,E)-hexa-2,4-dienoic acid	689-89-4	1177					EFSA
09.301	p-Tolyl octanoate	59558-23-5	703					EFSA
▼ <b>M14</b>								
09.302	Myrtenyl acetate	1079-01-2	982	10887		In categories 1, 3, 4.2, 5, 6, 7, 14.1, and 14.2	1	EFSA
▼ <b>M1</b>								
09.303	Hept-2-enyl isovalerate	253596-70-2	1799	10664			2	EFSA
09.304	sec-Heptyl isovalerate	238757-71-6		10806				EFSA
09.305	beta-Ionyl acetate	22030-19-9	1409	10702	At least 92%; secondary components 2-5% acetic acid and 1-2% beta-ionol		2	EFSA
09.306	2-Methoxycinnamyl acetate (mixture of isomers)	110823-66-0		10752				EFSA
09.307	2-Methylbutyl dodecanoate	93815-53-3		10766				EFSA
09.312	Allyl hexa-2,4-dienoate	7493-75-6	8	2182			2	JECFA/ EFSA
09.313	Benzyl 2-methylbutyrate	56423-40-6		10523				EFSA
09.314	Benzyl crotonate	65416-24-2						EFSA
09.315	Benzyl dodecanoate	140-25-0						EFSA
09.316	Benzyl hexanoate	6938-45-0		10521				EFSA
09.317	Benzyl lactate	2051-96-9						EFSA
09.318	Benzyl octanoate	10276-85-4						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.319	DL-Bornyl butyrate	13109-70-1	1412					EFSA
09.321	Butyl 2-methylbut-2(cis)-enoate	7785-64-0						EFSA
09.323	sec-Butyl acetate	105-46-4		10527				EFSA
09.324	Butyl but-(2E)-enoate	591-63-9						EFSA
09.325	sec-Butyl butyrate	819-97-6		10528				EFSA
09.326	Butyl deca-(2E,4Z)-dienoate	28369-24-6		10529				EFSA
09.327	Butyl decanoate	30673-36-0		10530				EFSA
09.328	sec-Butyl formate	589-40-2		10532				EFSA
09.329	Butyl hex-2-enoate	13416-74-5						EFSA
09.330	Butyl hex-(3E)-enoate	118869-62-8						EFSA
09.331	Butyl hexadecanoate	111-06-8						EFSA
09.332	sec-Butyl hexanoate	820-00-8		10533				EFSA
09.333	sec-Butyl lactate	18449-60-0						EFSA
09.334	Butyl nonanoate	50623-57-9						EFSA
09.335	Butyl oct-2-enoate	57403-32-4		10536				EFSA
09.337	Carvacryl acetate	6380-28-5						EFSA
09.339	Cinnamyl 2-methylcrotonate (mixture of isomers)	61792-12-9						EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.340	Citronellyl 2-methylbut-2-enoate	24717-85-9	1823					EFSA
09.341	Citronellyl hexanoate	10580-25-3						EFSA
09.342	Cyclogeranyl acetate	69842-11-1						EFSA
09.345	Di-isopentyl succinate	818-04-2		10555				EFSA
09.346	Dibutyl malate	6280-99-5						EFSA
09.347	Dibutyl succinate	141-03-7						EFSA
09.348	Diethyl adipate	141-28-6						EFSA
09.349	Diethyl citrate	32074-56-9						EFSA
09.350	Diethyl fumarate	623-91-6						EFSA
09.351	Diethyl maleate	141-05-9		10551				EFSA
09.352	Diethyl nonanedioate	624-17-9		10549				EFSA
09.353	Diethyl oxalate	95-92-1						EFSA
09.354	Diethyl pentanedioate	818-38-2						EFSA
09.355	neo-Dihydrocarvyl acetate	56422-50-5		10859				EFSA
09.356	1,1-Dimethylethyl propionate	20487-40-5						EFSA
09.358	3,7-Dimethyloctyl acetate	20780-49-8		10899				EFSA
09.360	Ethyl 2-acetoxypropionate	2985-28-6						EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.362	Ethyl 2-hydroxy-4-methylbenzoate	60770-00-5						EFSA
09.363	Ethyl 2-methoxybenzoate	7335-26-4						EFSA
09.364	Ethyl 2-phenylpropionate	2510-99-8						EFSA
09.365	Ethyl 3-methylcrotonate	638-10-8		10610				EFSA
09.367	Ethyl 4-hydroxybenzoate	120-47-8						EFSA
09.368	Ethyl 4-methylpent-3-enoate	6849-18-9		10615				EFSA
09.370	Ethyl dec-9-enoate	67233-91-4		10579				EFSA
09.371	Ethyl deca-2,4,7-trienoate	78417-28-4	1193	10576				EFSA
09.372	Ethyl dodec-(2E)-enoate	28290-90-6		10584				EFSA
09.374	Ethyl hept-(2E)-enoate	54340-72-6						EFSA
09.375	Ethyl methacrylate	97-63-2						EFSA
09.377	Ethyl oct-3-enoate	1117-65-3	1632	10618				EFSA
09.379	Ethyl pent-2-enoate	2445-93-4		10623				EFSA
09.380	Ethyl pentadecanoate	41114-00-5		10622				EFSA
09.381	2-Ethylhexyl acetate	103-09-3						EFSA
09.382	Geranyl 2-methylbutyrate	68705-63-5	1820					EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.383	Geranyl 2-methylcrotonate	7785-33-3	1822	11829				EFSA
09.385	Hept-2-enyl acetate	16939-73-4	1798	10661			2	EFSA
09.386	sec-Hept-4(cis)-enyl acetate	94088-33-2						EFSA
09.387	Heptyl 2-methylbutyrate	50862-12-9		10668				EFSA
09.388	sec-Heptyl acetate	5921-82-4		10802				EFSA
09.390	Heptyl hexanoate	6976-72-3		10666				EFSA
09.391	sec-Heptyl hexanoate	6624-58-4		10805				EFSA
09.392	Heptyl isovalerate	56423-43-9		10667				EFSA
09.394	E-Hex-2-enyl acetate	2497-18-9	1355	643	At least 90%; secondary component 5-6% (Z)-2-hexenyl acetate		2	EFSA
09.395	E -Hex-2-enyl propionate	53398-80-4	1378	11830			2	EFSA
09.396	Hex-2-enyl butyrate	53398-83-7	1375				2	EFSA
09.397	Hex-2-enyl formate	53398-78-0	1376	11858			2	EFSA
09.398	Hex-(2E)-enyl hexanoate.	53398-86-0	1381		At least 93%; secondary components 2-3% hexanoic acid and 2-3% 2-hexenol		2	EFSA
09.399	(2E)-Hexenyl isovalerate	68698-59-9	1377				2	EFSA
09.400	Hex-2-enyl phenylacetate	68133-78-8					2	EFSA
09.401	Isopentyl acetoacetate	2308-18-1	598	227				JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.402	Ethyl acetoacetate	141-97-9	595	240				JECFA
09.403	Butyl acetoacetate	591-60-6	596	241				JECFA
09.404	Isobutyl acetoacetate	7779-75-1	597	242				JECFA
09.405	Geranyl acetoacetate	10032-00-5	599	243				JECFA
09.406	Benzyl 3-oxobutyrate	5396-89-4	848	244				EFSA
09.407	2-Phenethyl 3-methylcrotonate	42078-65-9	998	246				EFSA
09.408	Isobutyl 2-methylbut-2(cis)-enoate	7779-81-9	1213	247				EFSA
09.409	Ethyl 2-methylbutyrate	7452-79-1	206	265				JECFA
09.410	Allyl 2-ethylbutyrate	7493-69-8	11	281			2	JECFA/ EFSA
09.411	Allyl cyclohexanebutyrate	7493-65-4	14	283			2	JECFA/ EFSA
09.412	Methyl isobutyrate	547-63-7	185	287				JECFA
09.413	Ethyl isobutyrate	97-62-1	186	288				JECFA
09.414	Propyl isobutyrate	644-49-5	187	289				JECFA
09.415	Isopropyl isobutyrate	617-50-5	309	290				JECFA
09.416	Butyl isobutyrate	97-87-0	188	291				JECFA
09.417	Isobutyl isobutyrate	97-85-8	194	292				JECFA



## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.418	Pentyl isobutyrate	2445-72-9		293				EFSA
09.419	Isopentyl isobutyrate	2050-01-3	49	294				JECFA
09.420	Heptyl isobutyrate	2349-13-5	190	295				JECFA
09.421	Citronellyl isobutyrate	97-89-2	71	296	At least 92%; secondary component 3-5% citronellol			JECFA
09.423	Linalyl isobutyrate	78-35-3	362	298				JECFA
09.424	Neryl isobutyrate	2345-24-6	73	299	At least 92%; secondary components 2-5% nerol and 1-2% geraniol			JECFA
09.425	Terpinyl 2-methylpropionate	7774-65-4	371	300				JECFA
09.426	Benzyl isobutyrate	103-28-6	844	301				EFSA
09.427	Phenethyl isobutyrate	103-48-0	992	302				EFSA
09.428	3-Phenylpropyl isobutyrate	103-58-2	640	303				EFSA
09.429	p-Tolyl isobutyrate	103-93-5	701	304				EFSA
09.430	Piperonyl isobutyrate	5461-08-5	895	305				EFSA
09.431	Geranyl isobutyrate	2345-26-8	72	306				JECFA
09.432	Methyl 4-methylvalerate	2412-80-8	216	322				JECFA
09.433	Ethyl lactate	97-64-3	931	371				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.434	Butyl lactate	138-22-7	932	372				EFSA
09.435	Ethyl 4-oxovalerate	539-88-8	607	373				JECFA
09.436	Butyl 4-oxovalerate	2052-15-5	608	374				JECFA
09.439	Diethyl malate	7554-12-3	620	382				JECFA
09.441	Butyl ethyl malonate	17373-84-1	615	384				JECFA
09.442	Ethyl pyruvate	617-35-6	938	430				EFSA
09.443	Isopentyl pyruvate	7779-72-8	939	431				EFSA
09.444	Diethyl succinate	123-25-1	617	438				JECFA
09.445	Dimethyl succinate	106-65-0	616	439				JECFA
09.446	Diethyl tartrate	87-91-2	622	440				JECFA
09.447	Ethyl isovalerate	108-64-5	196	442				JECFA
09.448	Propyl isovalerate	557-00-6	197	443				JECFA
09.449	Butyl isovalerate	109-19-3	198	444				JECFA
09.450	Isopropyl isovalerate	32665-23-9	310	445				JECFA
09.451	Octyl isovalerate	7786-58-5	200	446				JECFA
09.452	Nonyl isovalerate	7786-47-2	201	447				JECFA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.453	Geranyl isovalerate	109-20-6	75	448				JECFA
09.454	Linalyl isovalerate	1118-27-0	363	449				JECFA
09.455	Menthyl isovalerate	16409-46-4	432	450				JECFA
09.456	DL-Bornyl isovalerate	76-50-6	1393	451				EFSA
09.457	DL-Isobornyl isovalerate	7779-73-9	1394	452				EFSA
09.458	Benzyl isovalerate	103-38-8	845	453				EFSA
09.459	Cinnamyl isovalerate	140-27-2	654	454				EFSA
09.460	Citronellyl isovalerate	68922-10-1		455				SCF/CoE
09.461	Terpinyl isovalerate	1142-85-4	372	456				JECFA
09.462	Methyl isovalerate	556-24-1	195	457				JECFA
09.463	3-Methylbutyl 3-methylbutyrate	659-70-1	50	458				JECFA
09.464	Cyclohexyl isovalerate	7774-44-9	1096	459				EFSA
09.465	Rhodinyl isovalerate	7778-96-3	77	460				JECFA
09.466	Phenethyl isovalerate	140-26-1	994	461				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.467	3-Phenylpropyl isovalerate	5452-07-3	641	462				EFSA
09.468	alpha-Pentylcinnamyl isovalerate	7493-80-3	678	463				EFSA
09.469	Allyl cyclohexanevalerate	7493-68-7	15	474			2	JECFA/ EFSA
09.470	Cinnamyl isobutyrate	103-59-3	653	496				EFSA
09.471	Neryl isovalerate	3915-83-1	76	508				JECFA
09.472	Isobutyl isovalerate	589-59-3	203	568				JECFA
09.473	Octyl isobutyrate	109-15-9	192	593				JECFA
09.474	Dibutyl sebacate	109-43-3	625	622	At least 93%; secondary components 2-4% butyl ester of C14-, C16-, and C18- fatty acids			JECFA
09.475	Diethyl sebacate	110-40-7	624	623				JECFA
09.476	Ethyl 3-phenyl-3-oxopropionate	94-02-0	834	627	At least 88%; secondary component 7-9% ethyl benzoate			EFSA
09.478	Hexyl isobutyrate	2349-07-7	189	646				JECFA
09.480	o-Tolyl isobutyrate	36438-54-7	700	681				EFSA
09.481	Diethyl carbonate	105-58-8		710				SCF/CoE
09.482	Allyl cyclohexaneacetate	4728-82-9	12	2070			2	JECFA/ EFSA
09.483	Methyl 2-methylbutyrate	868-57-5	205	2085	At least 92%; secondary component 5-7% methyl isovalerate			JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.484	1,1-Dimethyl-3-phenylpropyl isobutyrate	10031-71-7	1461	2086				EFSA
09.485	2-Phenylpropyl isobutyrate	65813-53-8	1470	2087				EFSA
09.486	1-Phenethyl isobutyrate	7775-39-5	804	2088				EFSA
09.487	2-Phenoxyethyl isobutyrate	103-60-6	1028	2089				EFSA
09.488	Ethyl cyclohexanepropionate	10094-36-7	966	2095				EFSA
09.489	Allyl isovalerate	2835-39-4	7	2098			2	JECFA/EFSA
09.490	Diethyl malonate	105-53-3	614	2106				JECFA
09.491	Butyl-O-butyryllactate	7492-70-8	935	2107				EFSA
09.492	Allyl cyclohexanehexanoate	7493-66-5	16	2180			2	JECFA/EFSA
09.493	Allyl 2-methylcrotonate	7493-71-2	10	2183			2	JECFA/EFSA
09.494	Benzyl 2-methylcrotonate	37526-88-8	846	2184				EFSA
09.495	Ethyl 2-methylcrotonate	5837-78-5	1824	2185				EFSA
09.496	Phenethyl 2-methylcrotonate	55719-85-2	997	2186				EFSA
09.498	Allyl cyclohexanepropionate	2705-87-5	13	2223			2	JECFA/EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.499	Pentyl isovalerate	25415-62-7		2224				EFSA
09.501	Ethyl 2-acetyl-3-phenylpropionate	620-79-1	835	2241				EFSA
09.502	Ethyl butyryl lactate	71662-27-6		2242				EFSA
09.505	Hex-3-enyl isovalerate	10032-11-8	202	2344				JECFA
09.506	Hex-3-enyl 2-methylbutyrate	10094-41-4	211	2345				JECFA
09.507	Hexyl 2-methylbutyrate	10032-15-2	208	4132				JECFA
09.508	Benzyl 2,3-dimethylcrotonate	7492-69-5	847	11868				EFSA
09.509	1-Methyl-1-phenethyl isobutyrate	7774-60-9	1657	11828				EFSA
09.510	Ethyl aconitate	1321-30-8	628	11845				JECFA
09.511	Tributyl acetylcitrate	77-90-7	630					JECFA
09.512	Triethyl citrate	77-93-0	629	11762				JECFA
09.513	Isopropyl 2-methylcrotonate	1733-25-1	312	10733				JECFA
09.514	Ethyl 2,4-dioxohexanoate	13246-52-1	603	11903				JECFA
09.515	Geranyl 2-ethylbutyrate	73019-14-4	78	11667				JECFA
09.516	2-Methylbutyl 2-methylbutyrate	2445-78-5	212	10773	At least 90%; secondary component 5-7% 2-methylbutyl 3-methylbutyrate			JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.517	Methyl citronellate	2270-60-2	354	10781				JECFA
09.518	4-Methylphenyl isovalerate	55066-56-3	702	10545				EFSA
09.519	Butyl 2-methylbutyrate	15706-73-7	207	10534				JECFA
09.520	Methyl 3-oxo-2-pentyl-1-cyclopentylacetate	24851-98-7		10785				EFSA
09.521	Methyl-3-oxo-2-pent-2-enyl-1-cyclopentylacetate	39924-52-2	1400	10821	Mixture of isomers: trans-trans isomer: 2-8%, trans-cis isomer: 84-92%, cis-cis isomer:3-8%. Sum of three main peaks: 98-100%			EFSA
09.522	Ethyl 3-hydroxybutyrate	5405-41-4	594	10596				JECFA
09.523	Dodecyl isobutyrate	6624-71-1	193	10563				JECFA
09.524	Ethyl 2-methylpent-3-enoate	1617-23-8	350	10612				JECFA
09.525	Maltyl isobutyrate	65416-14-0	1482	10739			2	EFSA
09.526	Ethyl 2-methylvalerate	39255-32-8	214	10616				JECFA
09.527	Ethyl 2-methylpent-4-enoate	53399-81-8	351	10613				JECFA
09.528	trans-3-Heptenyl isobutyrate		191	10663				JECFA
09.529	Hexyl isovalerate	10032-13-0	199	10692				JECFA
09.530	Isopentyl 2-methylbutyrate	27625-35-0	51	10721				JECFA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.531	2-Methylbutyl isovalerate	2445-77-4	204	10772				JECFA
09.532	Methyl 3-hydroxyhexanoate	21188-58-9	600	10812				JECFA
09.533	Ethyl brassylate	105-95-3	626	10571				JECFA
09.534	Ethyl cyclohexanecarboxylate	3289-28-9	963	11916				EFSA
09.535	Ethyl 3-hydroxyhexanoate	2305-25-1	601	11764				JECFA
09.536	Methyl cyclohexanecarboxylate	4630-82-4	962	11920				EFSA
09.537	Octyl 2-methylbutyrate	29811-50-5	209	10866				JECFA
09.538	Phenethyl 2-methylbutyrate	24817-51-4	993	10883				EFSA
09.539	Oct-3-yl 2-methylcrotonate	94133-92-3	448					JECFA
09.540	Ethyl 2-methylpenta-3,4-dienoate	60523-21-9	353					EFSA
09.541	Ethyl 3-methylvalerate	5870-68-8	215					JECFA
09.542	Ethyl 3-oxohexanoate	3249-68-1	602					JECFA
09.543	Glyceryl 5-hydroxydecanoate	26446-31-1	923	10648	Mixture of 9-11% glycerol; 24-30% delta-decalactone; 25-34% mono-glyceride, 13-21% diglyceride and 6-11% triglyceride			EFSA
09.544	Glyceryl 5-hydroxydodecanoate	26446-32-2	924	10649	Mixture of 5-8% glycerol; 37-47% delta-dodecalactone; 16-28% mono-glyceride; 11-19% diglyceride and 3-7% triglyceride			EFSA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.545	Hex-(3Z)-enyl lactate	61931-81-5	934	10681				EFSA
09.546	Hexyl-2-methylpent-(3 and 4)-enoate	58625-95-9	352					JECFA
09.547	Isopropyl 2-methylbutyrate	66576-71-4	210					JECFA
09.548	Methyl 2-hydroxy-4-methylvalerate	40348-72-9	590					JECFA
09.549	Methyl 2-methylvalerate	2177-77-7	213					JECFA
09.550	Methyl 2-oxo-3-methylvalerate	3682-42-6	591					JECFA
09.551	l-Menthyl lactate	59259-38-0	433					JECFA
09.552	3-Oxodecanoic acid glyceride	91052-69-6	914	10650				EFSA
09.553	3-Oxododecanoic acid glyceride	91052-70-9	915	10651				EFSA
09.554	3-Oxohexadecanoic acid glyceride	91052-71-0	917	10652				EFSA
09.555	3-Oxohexanoic acid glyceride	91052-72-1	910	10653				EFSA
09.556	3-Oxooctanoic acid glyceride	91052-68-5	911	10654				EFSA
09.557	3-Oxotetradecanoic acid glyceride	91052-73-2	916	10655				EFSA
09.558	Dimethyl malonate	108-59-8		11754				EFSA
09.559	Hex-3(cis)-enyl 2-methylcrotonate	67883-79-8	1277					EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.560	Hex-3(cis)-enyl anisate	121432-33-5						EFSA
09.561	Hex-3(cis)-enyl anthranilate	65405-76-7	1538	10676				EFSA
▼ <b>M3</b>								
09.562	trans-3-Hexenyl formate	56922-80-6						EFSA
▼ <b>M1</b>								
09.563	Hex-3(cis)-enyl isobutyrate	41519-23-7	1275	11783				EFSA
09.564	Hex-3(cis)-enyl propionate	33467-74-2	1274	10683				EFSA
09.565	(3Z)-Hexenyl 2-oxopropionate	68133-76-6	1846	10684				EFSA
09.566	(3Z)-Hexenyl (E)-but-2-enoate	65405-80-3	1276					EFSA
09.567	Hex-(3Z)-enyl decanoate	85554-69-4						EFSA
09.568	(3Z)-hexenyl (E)-hexenoate	53398-87-1	1279		At least 86%; secondary components 6-7% 3-hexenyl 3-hexenoate and 4-5% 1-hexenyl 2-hexenoate			EFSA
09.569	Hex-(3Z)-enyl octanoate	61444-41-5						EFSA
09.570	(Z)-Hex-3-enyl salicylate	65405-77-8		10685				EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.571	(3Z)-hexenyl valerate	35852-46-1	1278	10686				EFSA
09.572	Hex-(4Z)-enyl acetate	42125-17-7						EFSA

▼ M15

09.573	Hexa-2,4-dienyl acetate	1516-17-2	1780	10675		Restrictions of use as a flavouring substance:  In category 1 — not more than 25 mg/kg, in category 3 — not more than 20 mg/kg, in category 4.2 — not more than 25 mg/kg, in category 5 — not more than 25 mg/kg, in category 6 — not more than 10 mg/kg, in category 7 — not more than 25 mg/kg, in category 12 — not more than 10 mg/kg, in category 14.1 — not more than 20 mg/kg, in category 14.2 — not more than 20 mg/kg, in category 15 — not more than 25 mg/kg, in category 16 — not more than 25 mg/kg.	1	EFSA
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▼ M1

09.574	Hexadec-1-yl acetate	629-70-9						EFSA
09.575	(3Z)-Hexenyl heptanoate	61444-39-1						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.578	Hexyl (E)-but-2-enoate	1617-25-0		10688				EFSA
09.579	Hexyl dodecanoate	34316-64-8						EFSA
09.580	Hexyl lactate	20279-51-0						EFSA
09.581	Hexyl salicylate	6259-76-3		10695				EFSA
09.582	Hexyl tetradecanoate	42231-99-2						EFSA
09.583	Hexyl valerate	1117-59-5		10696				EFSA
09.584	Isobornyl isobutyrate	85586-67-0	1863					EFSA
09.585	Isobutyl 2-methylbutyrate	2445-67-2		10710				EFSA
09.586	Isobutyl 2-methylprop-2-enoate	97-86-9						EFSA
09.587	Isobutyl decanoate	30673-38-2		10707				EFSA
09.588	Isobutyl dodecanoate	37811-72-6		10708				EFSA
09.589	Isobutyl hexadecanoate	110-34-9		10715				EFSA
09.590	Isobutyl lactate	585-24-0		10709				EFSA
09.592	Isobutyl octadecanoate	646-13-9						EFSA
09.593	Isobutyl octanoate	5461-06-3		10714				EFSA

▼ **M3**▼ **M1**

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.594	Isobutyl tetradecanoate	25263-97-2		10712				EFSA
▼ <b>M3</b>								
09.596	Isopentyl-(Z)-but-2-enoate	10482-55-0						EFSA
▼ <b>M1</b>								
09.598	Isopentyl decanoate	2306-91-4						EFSA
09.599	Isopentyl heptanoate	109-25-1		10719				EFSA
09.600	Isopentyl hexadecanoate	81974-61-0		10723				EFSA
09.601	Isopentyl lactate	19329-89-6		10720				EFSA
09.602	Isopentyl tetradecanoate	62488-24-8		10722				EFSA
09.603	Isopropyl crotonate	6284-46-4		10729				EFSA
09.604	Isopropyl decanoate	2311-59-3		10730				EFSA
09.605	Isopropyl dodecanoate	10233-13-3						EFSA
09.606	Isopropyl hexadecanoate	142-91-6		10732				EFSA
09.608	Isopropyl octanoate	5458-59-3		10731				EFSA
09.609	Isopropyl valerate	18362-97-5						EFSA
09.611	4-Isopropylbenzyl acetate	59230-57-8						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.612	Lavandulyl acetate	25905-14-0						EFSA
09.614	Linalyl valerate	10471-96-2		10738				EFSA
09.615	p-Menth-1-en-9-yl acetate	28839-13-6	972	10748				EFSA
09.616	mono-Menth-3-yl succinate	77341-67-4	447					JECFA
09.617	p-Menthan-8-yl acetate	58985-18-5						EFSA
09.618	Menthyl formate	2230-90-2		10751				EFSA
09.619	(1R,2S,5R)-Menthyl hexanoate	6070-16-2						EFSA
09.620	Menthyl phenylacetate	1154-92-3						EFSA
09.621	(1R,2S,5R)-Menthyl salicylate	89-46-3						EFSA
09.623	Methyl 2,4-dihydroxy-3,6-dimethylbenzoate	4707-47-5						EFSA
09.624	Methyl 2-methylcrotonate	6622-76-0						EFSA
09.625	Methyl 2-methylpent-3(E)-enoate	33603-30-4						EFSA
09.626	Methyl 2-oxopropionate	600-22-6		10848				EFSA
09.629	Methyl 3-acetoxyhexanoate	21188-60-3		10755				EFSA
09.631	Methyl 4-methylbenzoate	99-75-2						EFSA
09.632	Methyl 5-acetoxyhexanoate	35234-22-1	1719	10756				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.633	Methyl 5-hydroxydecanoate	101853-47-8						EFSA
09.634	Methyl acetoacetate	105-45-3						EFSA
09.636	Methyl crotonate	623-43-8						EFSA
09.637	Methyl dec-2-enoate	2482-39-5		11799				EFSA
09.638	Methyl dec-(4Z)-enoate	7367-83-1		10784				EFSA
09.639	Methyl (E,Z)-deca-2,4-dienoate	4493-42-9	1191		At least 93%; secondary component 2-5% (E,E) methyl 2,4-decadienoate			EFSA
09.640	Methyl deca-4,8-dienoate	1191-03-3		10782				EFSA
09.641	Methyl dodec-(2E)-enoate	6208-91-9		10792				EFSA
09.642	Methyl formate	107-31-3		10795				EFSA
09.643	Methyl geranate	1189-09-9		10797				EFSA
09.644	(S)-Methyl lactate	27871-49-4						EFSA
09.645	Mixture of methyl linoleate and methyl linolenate		346	713, 714	44-46% methyl linolenate; 18-20% methyl linoleate; 22-25% methyl stearate and methyl oleate; 7-8% methyl palmitate			SCF/CoE/JECFA
09.647	Methyl methacrylate	80-62-6	1834					EFSA
09.648	Methyl N,N-dimethyl-anthranilate	10072-05-6	1551					EFSA
09.649	Methyl N-acetylanthranilate	2719-08-6	1550					EFSA
09.650	Methyl N-formylan-thranilate	41270-80-8	1549					EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.651	Methyl octadecanoate	112-61-8		10849				EFSA
09.652	Methyl oleate	112-62-9		10836				EFSA
09.655	3-Methylbut-3-enyl acetate	5205-07-2	1269					EFSA
09.656	3-Methylbut-3-enyl benzoate	5205-12-9						EFSA
09.657	1-Methylbutyl acetate	626-38-0	1146	10761				EFSA
09.658	1-Methylbutyl butyrate	60415-61-4	1142	10763				EFSA
09.659	2-Methylbutyl butyrate	51115-64-1						EFSA
09.660	2-Methylbutyl decanoate	68067-33-4		10765				EFSA
09.661	2-Methylbutyl formate	35073-27-9						EFSA
09.662	2-Methylbutyl hexanoate	2601-13-0		10768				EFSA
09.663	2-Methylbutyl isobutyrate	2445-69-4		10770				EFSA
09.664	2-Methylbutyl octanoate	67121-39-5		10776				EFSA
09.665	2-Methylbutyl propionate	2438-20-2		10778				EFSA
09.666	2-Methylbutyl tetradecanoate	93805-23-3		10774				EFSA
09.670	Myrtanyl acetate	29021-36-1						EFSA



## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.671	(3S,6Z)-Nerolidyl acetate	56001-43-5		10862				EFSA
09.672	Non-(3Z)-enyl acetate	13049-88-2						EFSA
09.673	Non-(6Z)-enyl acetate	76238-22-7						EFSA
09.674	(E,Z)-3,6-Nonadien-1-ol, acetate	211323-05-6	1285					EFSA
09.676	sec-Octyl acetate	2051-50-5		10799				EFSA
09.677	Octyl hexanoate	4887-30-3		10865				EFSA
09.678	Pent-2-enyl hexanoate	74298-89-8	1795				2	EFSA
09.679	Pentyl 2-methylbutyrate	68039-26-9		10875				EFSA
09.680	Pentyl 2-methylisocrotonate	7785-63-9						EFSA
09.681	Pentyl dodecanoate	5350-03-8						EFSA
09.682	Pentyl hexadecanoate	31148-31-9						EFSA
09.683	Pentyl lactate	6382-06-5						EFSA
09.684	(E)-2-Phenylethyl 2-butenolate	68141-20-8		10880				EFSA
09.685	2-Phenethyl decanoate	61810-55-7		10881				EFSA
09.686	Phenethyl lactate	155449-46-0						EFSA
09.687	2-Phenoxyethyl butyrate	23511-70-8						EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.688	Phenyl acetate	122-79-2	734	10878				EFSA
09.689	Phenyl salicylate	118-55-8	736	11814				EFSA
09.690	3-Phenylpropyl butyrate	7402-29-1						EFSA
09.691	Phytyl acetate	10236-16-5	1833					EFSA
09.692	Prenyl acetate	1191-16-8	1827	11796				EFSA
09.693	Prenyl benzoate	5205-11-8						EFSA
09.694	Prenyl formate	68480-28-4	1826					EFSA
09.695	Prenyl isobutyrate	76649-23-5	1828					EFSA
09.696	Prenyl salicylate	68555-58-8						EFSA
09.698	Propyl 2-methylbutyrate	37064-20-3		10891				EFSA
09.699	Propyl crotonate	10352-87-1						EFSA
09.700	Propyl decanoate	30673-60-0						EFSA
09.701	Allyl phenoxyacetate	7493-74-5	18	228			2	JECFA/ EFSA
09.702	Propyl phenylacetate	4606-15-9	1010	229				EFSA
09.703	Octyl phenylacetate	122-45-2	1017	230				EFSA
09.704	(2E)-Geranyl phenylacetate	102-22-7	1020	231				EFSA
09.705	Benzyl phenylacetate	102-16-9	849	232				EFSA
09.706	Anisyl phenylacetate	102-17-0	876	233				EFSA
09.707	Phenethyl phenylacetate	102-20-5	999	234				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.708	Cinnamyl phenylacetate	7492-65-1	655	235				EFSA
09.709	p-Tolyl phenylacetate	101-94-0	705	236				EFSA
09.710	Isoeugenyl phenylacetate	120-24-1	1263	237				EFSA
09.711	Guaiacyl phenylacetate	4112-89-4	719	238				EFSA
09.712	Santalyl phenylacetate	1323-75-7	1022	239			2	EFSA
09.713	Methyl 4-methoxybenzoate	121-98-2	884	248				EFSA
09.714	Ethyl 4-methoxybenzoate	94-30-4	885	249				EFSA
09.715	Methyl anthranilate	134-20-3	1534	250				EFSA
09.716	Ethyl anthranilate	87-25-2	1535	251				EFSA
09.717	Butyl anthranilate	7756-96-9	1536	252				EFSA
09.718	Isobutyl anthranilate	7779-77-3	1537	253				EFSA
09.719	Allyl anthranilate	7493-63-2	20	254			2	JECFA/ EFSA
09.721	Linalyl anthranilate	7149-26-0	1540	256				EFSA
09.722	Cyclohexyl anthranilate	7779-16-0	1541	257				EFSA
09.723	Phenethyl anthranilate	133-18-6	1543	258				EFSA
09.724	alpha-Terpinyll anthranilate	14481-52-8	1542	259				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.725	Methyl benzoate	93-58-3	851	260				EFSA
09.726	Ethyl benzoate	93-89-0	852	261				EFSA
09.727	Benzyl benzoate	120-51-4	24	262				EFSA
09.728	Ethyl 4-phenylbutyrate	10031-93-3	1458	307				EFSA
09.729	Methyl 4-phenylbutyrate	2046-17-5	1464	308				EFSA
09.730	Ethyl cinnamate	103-36-6	659	323				EFSA
09.731	Propyl cinnamate	7778-83-8	660	324				EFSA
09.732	Isopropyl cinnamate	7780-06-5	661	325				EFSA
09.733	Butyl cinnamate	538-65-8	663	326				EFSA
09.734	Isobutyl cinnamate	122-67-8	664	327				EFSA
09.735	Pentyl cinnamate (mixture of isomers)	3487-99-8		328				EFSA
09.736	Linalyl cinnamate	78-37-5	668	329				EFSA
09.737	(S)-Terpinyl cinnamate	10024-56-3	669	330				EFSA
09.738	Benzyl cinnamate	103-41-3	670	331				EFSA
09.739	Cinnamyl cinnamate	122-69-0	673	332				EFSA
09.740	Methyl cinnamate	103-26-4	658	333				EFSA
09.741	Allyl cinnamate	1866-31-5	19	334			2	JECFA/ EFSA
09.742	Isopentyl cinnamate	7779-65-9	665	335				EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.743	Phenethyl cinnamate	103-53-7	671	336				EFSA
09.744	Cyclohexyl cinnamate	7779-17-1	667	337				EFSA
09.745	3-Phenylpropyl cinnamate	122-68-9	672	338				EFSA
09.746	Methyl 3-phenylpropionate	103-25-3	643	427				EFSA
09.747	Ethyl 3-phenylpropionate	2021-28-5	644	429				EFSA
09.748	Ethyl salicylate	118-61-6	900	432				EFSA
09.749	Methyl salicylate	119-36-8	899	433				EFSA
09.750	Isobutyl salicylate	87-19-4	902	434				EFSA
09.751	Isopentyl salicylate	87-20-7	903	435				EFSA
09.752	Benzyl salicylate	118-58-1	904	436				EFSA
09.753	Phenethyl salicylate	87-22-9	905	437				EFSA
09.755	Isopentyl benzoate	94-46-2	857	562	65-68% 3-methylbutyl benzoate; 30-35% 2-methylbutyl benzoate; 1-5% n-pentyl benzoate			EFSA
09.756	Isobornyl phenylacetate	94022-06-7		566				EFSA
09.757	Isobutyl benzoate	120-50-3	856	567				EFSA
09.758	Methyl p-tert-butylphenylacetate	3549-23-3	1025	577				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.761	Pentyl phenylacetate	5137-52-0		612				EFSA
09.762	Pentyl salicylate	2050-08-0		613				EFSA
09.763	Butyl salicylate	2052-14-4	901	614				EFSA
09.764	Ethyl N-ethylantranilate	38446-21-8	1547	629				EFSA
09.765	Ethyl N-methylantranilate	35472-56-1	1546	632				EFSA
09.766	Eugenyl benzoate	531-26-0	1533	636				EFSA
09.767	Geranyl benzoate	94-48-4	860	639				EFSA
09.768	Hexyl benzoate	6789-88-4	854	645				EFSA
09.769	Isobutyl N-methylantranilate	65505-24-0	1548	649				EFSA
09.770	Isopropyl benzoate	939-48-0	855	652				EFSA
09.771	Linalyl benzoate	126-64-7	859	654				EFSA
09.772	Linalyl phenylacetate	7143-69-3	1019	655				EFSA
09.774	Phenethyl benzoate	94-47-3		667				EFSA
09.776	Propyl benzoate	2315-68-6	853	677				EFSA
09.779	Butyl benzoate	136-60-7		740				EFSA
09.780	Cinnamyl benzoate	5320-75-2	760	743				EFSA
09.781	Methyl N-methylantranilate	85-91-6	1545	756				EFSA
09.782	Heptyl cinnamate	10032-08-3	666	2104				EFSA
09.783	Methyl phenylacetate	101-41-7	1008	2155				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.784	Ethyl phenylacetate	101-97-3	1009	2156				EFSA
09.785	Citronellyl phenylacetate	139-70-8	1021	2157				EFSA
09.786	Isopropyl phenylacetate	4861-85-2	1011	2158				EFSA
09.787	Butyl phenylacetate	122-43-0	1012	2159				EFSA
09.788	Isobutyl phenylacetate	102-13-6	1013	2160				EFSA
09.789	3-Methylbutyl phenylacetate	102-19-2	1014	2161	62-64% n-amyl; 33-36% isoamyl			EFSA
09.790	Allyl phenylacetate	1797-74-6	17	2162			2	JECFA/ EFSA
09.791	(3S)-Rhodinyl phenylacetate	10486-14-3	1018	2163				EFSA
09.796	Methyl 2-methoxybenzoate	606-45-1	880	2192				EFSA
09.797	Ethyl (p-tolyloxy)acetate	67028-40-4	1027	2243				EFSA
09.798	Ethyl vanillate	617-05-0		2302				EFSA
09.799	Methyl vanillate	3943-74-6		2305				EFSA
09.801	2-Naphthyl anthranilate	63449-68-3	1544	11862				EFSA
09.802	Ethyl 2-ethyl-3-phenylpropionate	2983-36-0	1475	10587				EFSA
09.803	Propylene glycol dibenzoate	19224-26-1	862	10890				EFSA
09.804	Hexyl phenylacetate	5421-17-0	1015	10694				EFSA
09.805	Hex-3-enyl phenylacetate	42436-07-7	1016	10682				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.806	(Z)-Hex-3-enyl benzoate	25152-85-6	858	11778	93-97% cis-hexenyl benzoate; 1-2% trans-3-hexenyl benzoate			EFSA
09.807	o-Tolyl salicylate	617-01-6	907					EFSA
09.808	Guaiyl acetate	134-28-1		10659				EFSA

▼ **M4**

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▼ **M1**

09.811	Vanillin isobutyrate	20665-85-4	891					EFSA
09.812	Glyceryl tribenzoate	614-33-5	861	10656				EFSA
09.813	Propyl dodecanoate	3681-78-5						EFSA
09.814	Propyl hexadecanoate	2239-78-3		10893				EFSA
09.815	Propyl lactate	616-09-1						EFSA
09.816	Propyl octanoate	624-13-5		10892				EFSA
09.818	3,7,11-Trimethyldodeca-2,6,10-trienyl acetate	29548-30-9	1831					EFSA
09.819	3,5,5-Trimethylhexyl acetate	58430-94-7						EFSA
09.820	Undecyl acetate	1731-81-3		10906				EFSA

▼ **M11**

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▼ **M1**

09.822	iso-Propenyl acetate	108-22-5	1835					EFSA
09.824	Ethyl 2-acetylbutyrate	607-97-6						EFSA
09.825	Pentyl benzoate	2049-96-9		2307				EFSA



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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.829	Ethyl cyclohexyl acetate	5452-75-5		218				EFSA
09.830	Terpineol acetate	8007-35-0	368	205				JECFA
09.831	Ethyl 3,7-dimethyl-2,6-octadienoate	13058-12-3						EFSA
09.832	Ethyl 3-acetohexanoate	21188-61-4		10566				EFSA
09.833	iso-Propyl 4-oxopentanoate	21884-26-4						EFSA
09.835	Benzyl decanoate	42175-41-7						EFSA
09.836	3-Phenylpropyl benzoate	60045-26-3						EFSA
09.837	3-Phenylpropyl 3-phenylpropionate	60045-27-4						EFSA
09.838	(3Z)-Hexenyl methyl carbonate	67633-96-9						EFSA
09.839	Decyl 3-methylbutyrate	72928-48-4						EFSA
09.840	Propyl 2,4-decadienoate	84788-08-9	1194	10889				EFSA
09.841	2-Hexenyl octanoate	85554-72-9	1796				2	EFSA
09.842	l-Menthol ethylene glycol carbonate	156324-78-6	443					JECFA
09.843	Menthol 1-and 2-propylene glycol carbonate	30304-82-6					1	EFSA
09.846	3-Hexenyl formate	2315-09-5	1272	2153				EFSA
09.848	(-)-bornyl acetate	5655-61-8	1864					EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.850	Ethyl trans-2-hexenoate	27829-72-7	1808	631				EFSA
09.852	2-Methylbutyl 2-hydroxybenzoate	51115-63-0						EFSA
▼ <u>M3</u>								
09.854	cis-3-Hexenyl 2-methylbutanoate	53398-85-9						EFSA
▼ <u>M1</u>								
09.855	(3E)-Hexenyl hexanoate	56922-82-8						EFSA
▼ <u>M3</u>								
09.858	Phenylmethyl 2-methyl-2-butenolate	67674-41-3			Mixture of stereoisomers: 60-90 % E-form and 10-40 % Z-form			EFSA
▼ <u>M1</u>								
09.862	Ethyl 3-acetoxy octanoate	85554-66-1						EFSA
09.865	Hexyl (9Z)-octadecenoate	20290-84-0						EFSA
09.866	Allyl valerate	6321-45-5					2	EFSA
09.870	Carvyl-3-methylbutyrate	94386-39-7						EFSA
09.871	Citronellyl decanoate	72934-06-6						EFSA
09.872	Citronellyl dodecanoate	72934-07-7						EFSA
09.874	Di(2-methylbutyl) malate	253596-99-5						EFSA
09.878	Eugenyl isovalerate	61114-24-7	1532					EFSA
▼ <u>M3</u>								
09.880	(Z)-Hept-4-en-2-yl butanoate	94088-12-7						EFSA
▼ <u>M1</u>								
09.884	Hex-3-enyl-2-ethylbutyrate	233666-04-1						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.885	Hex-3-enyl hexadecanoate	233666-03-0						EFSA
09.888	Isobornyl 2-methylbutyrate	94200-10-9	1869					EFSA
09.893	2-Isopropyl-5-methylphenyl formate	406700-80-9						EFSA
09.894	2-Methoxy-4-(prop-1-enyl)phenyl 3-methylbutyrate	61114-23-6						EFSA
09.895	4-Methoxybenzyl-2-methylpropionate	71172-26-4						EFSA
09.897	3-Methylbut-3-en-1-yl butyrate	54702-13-5						EFSA
09.898	3-Methylbut-3-en-1-yl hexanoate	53655-22-4						EFSA
09.916	Ethyl 3-hydroxyoctanoate	7367-90-0		10603				EFSA
09.917	4-Pentenyl acetate	1576-85-8	1270					EFSA
09.918	cis-4-Decenyl acetate	67452-27-1	1288					EFSA
09.919	Ethyl 3-acetoxy-2-methylbutyrate	139564-43-5	1718					EFSA
09.921	Ethyl 5-hexenoate	54653-25-7	1273					EFSA
09.922	(4Z)-Ethylheptenoate	39924-27-1	1281					EFSA

▼ **M12**▼ **M1**

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.923	Hept-2-yl butyrate	39026-94-3	1144					EFSA
09.924	3-Heptyl acetate (mixture of R and S)	5921-83-5	1143					EFSA
09.925	Nonan-3-yl acetate	60826-15-5	1145					EFSA
09.926	Octan-3-yl formate	84434-65-1						EFSA
09.927	Rhodinyl butyrate	141-15-1	68		At least 85%; secondary component 10-13% rhodinol			JECFA
09.928	(3E)-Hexenyl acetate	3681-82-1						EFSA
09.929	L-Monomenthyl glutarate	220621-22-7						EFSA
09.930	Cyclohexyl, 2-methylene-5-(1-methylethenyl) acetate	71660-03-2	1098					EFSA
▼ <u>M17</u>								
09.931	2,6-Dimethyl-2,5,7-octatriene-1-ol acetate	999999-91-4	1226					EFSA
▼ <u>M1</u>								
09.932	(5Z)-Octenylpropionate	196109-18-9	1282		At least 93%; secondary components 2-3% (E)-5-Octenyl propionate and 0.5-1% (Z)-5-Octenol			EFSA
09.933	Ethyl vanillin isobutyrate	188417-26-7	953					EFSA
09.934	Methyl (5Z)-Octenoate	41654-15-3	1630					EFSA
09.935	Dimenthyl glutarate	406179-71-3						EFSA
▼ <u>M3</u>								
09.936	4,8-Dimethyl-3,7-nonadien-2-yl acetate	91418-25-6	1847					EFSA
▼ <u>M1</u>								
09.937	Methyl (3Z)-hexenoate	13894-62-7	1624					EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
09.938	6-Methyl-5-hepten-2-yl acetate	19162-00-6	1838					EFSA
09.939	Ethyl (3Z)-hexenoate	64187-83-3	1626					EFSA
09.940	Rhodinyl isobutyrate	138-23-8	74	592				JECFA
09.942	2-Methylbutyl-3-methyl-2-butenolate	97890-13-6						EFSA
09.943	Guaiacol propionate	7598-60-9						EFSA
09.944	Guaiacol butyrate	4112-92-9						EFSA
09.945	Guaiacol isobutyrate	723759-62-4						EFSA
09.946	Dihydrogalangal acetate	129319-15-9						EFSA
09.947	(E,Z)-2,6-nonadienyl acetate	68555-65-7	1188				2	JECFA/ EFSA
09.948	(2E)-2-nonenyl acetate	30418-89-4					2	EFSA
09.949	L-Menthyl (S)-3-hydroxybutyrate	115869-76-6						EFSA
09.950	Z-5-Octenyl acetate	71978-00-2						EFSA
09.951	Bis(2-ethylhexyl)adipate (dioctyl adipate)	123-79-5	1968					EFSA
10.001	Nonano-1,4-lactone	104-61-0	229	178				JECFA
10.002	Undecano-1,4-lactone	104-67-6	233	179				JECFA
10.003	Hexadec-6-eno-1,16-lactone	7779-50-2	240	180				JECFA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
10.004	Pentadecano-1,15-lactone	106-02-5	239	181				JECFA
10.005	3-Propylidenephthalide	17369-59-4	1168	494				EFSA
10.006	Butyro-1,4-lactone	96-48-0	219	615				JECFA
10.007	Decano-1,5-lactone	705-86-2	232	621				JECFA
10.008	Dodecano-1,5-lactone	713-95-1	236	624				JECFA
10.009	Dodec-6-eno-1,4-lactone	18679-18-0	249	625				JECFA
10.010	Hexano-1,5-lactone	823-22-3	224	641				JECFA
10.011	Undecano-1,5-lactone	710-04-3	234	688				JECFA
10.012	5-Methylfuran-2(3H)-one	591-12-8	221	731				JECFA
10.013	Pentano-1,4-lactone	108-29-2	220	757				JECFA
10.014	Nonano-1,5-lactone	3301-94-8	230	2194				JECFA
10.015	Octano-1,5-lactone	698-76-0	228	2195				JECFA
10.016	Tetradecano-1,5-lactone	2721-22-4	238	2196				JECFA
10.017	Decano-1,4-lactone	706-14-9	231	2230				JECFA
10.018	4-Butyloctano-1,4-lactone	7774-47-2	227	2231				JECFA
10.019	Dodecano-1,4-lactone	2305-05-7	235	2240				JECFA
10.020	Heptano-1,4-lactone	105-21-5	225	2253				JECFA
10.021	Hexano-1,4-lactone	695-06-7	223	2254				JECFA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
10.022	Octano-1,4-lactone	104-50-7	226	2274				JECFA
10.023	5-Ethyl-3-hydroxy-4-methylfuran-2(5H)-one	698-10-2	222	2300			2	JECFA/ EFSA
10.024	3-Butylidenephthalide	551-08-6	1170	10083				EFSA
10.025	3-Butylphthalide	6066-49-5	1169	10084				EFSA
10.026	3-Heptyldihydro-5-methyl-2(3H)-furanone	40923-64-6	244	10953				JECFA
10.027	3,7-Dimethyloctano-1,6-lactone	499-54-7	237	11833	At least 90%; secondary component 5-6% 6-hydroxy-3,7-dimethyl-2-octenoic acid lactone			JECFA
10.028	Dodecano-1,6-lactone	16429-21-3	242					JECFA
10.029	Decano-1,6-lactone	5579-78-2	241					JECFA
10.030	3-Hydroxy-4,5-dimethylfuran-2(5H)-one	28664-35-9	243	11834			2	JECFA/ EFSA
10.031	6-Pentyl-2H-pyran-2-one	27593-23-3	245	10967				EFSA
10.033	Dec-7-eno-1,5-lactone	34686-71-0	247					JECFA
10.034	5,6-Dihydro-3,6-dimethylbenzofuran-2(4H)-one	80417-97-6	1163				2	EFSA
10.035	Undec-8-eno-1,5-lactone	68959-28-4	248					JECFA
10.036	5,6,7,7a-Tetrahydro-3,6-dimethylbenzofuran-2(4H)-one	13341-72-5	1162				2	EFSA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
10.037	5-Hydroxy-2-decenoic acid delta-lactone	54814-64-1	246					EFSA
10.038	Dec-7-eno-1,4-lactone	67114-38-9						EFSA
10.039	cis-Dec-7-eno-1,4-lactone	63095-33-0						EFSA
10.040	Dec-8-eno-1,5-lactone	32764-98-0						EFSA
10.042	3,4-Dimethyl-5-pentylidene-furan-2(5H)-one	774-64-1		11873	At least 93%; secondary component 1-2% 3,4-dimethyl 5-ketobutanoic acid gamma-lactone		2	EFSA
10.043	2,7-Dimethylocta-5(trans),7-dieno-1,4-lactone	78548-56-8					2	EFSA
10.044	Dodec-2-eno-1,5-lactone	16400-72-9	438		At least 88% 6-heptyl-5,6-dihydro-2H-pyran-2-one; secondary components 3-5% E-6-(3-heptenyl)-5,6-dihydro-2H-pyran-2-one and 1-2% 6-heptyl-3,6-dihydro-2H-pyran-2-one			EFSA
10.045	Heptano-1,5-lactone	3301-90-4		10660				EFSA
10.046	Hex-2-eno-1,4-lactone	2407-43-4					2	EFSA
10.047	Hexadecano-1,16-lactone	109-29-5						EFSA
10.048	Hexadecano-1,4-lactone	730-46-1		10673				EFSA
10.049	Hexadecano-1,5-lactone	7370-44-7		10674				EFSA
10.050	Hexahydro-3,6-dimethyl-2(3H)-benzofuranone	92015-65-1	1161					EFSA



## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
10.051	5-Hexyl-5-methyldihydro-furan-2(3H)-one	7011-83-8	250					JECFA
10.052	3-Methylnonano-1,4-lactone	33673-62-0						EFSA
10.053	3-Methyloctano-1,4-lactone	39212-23-2	437	10535				JECFA
10.054	Non-2-eno-1,4-lactone	21963-26-8					2	EFSA
10.055	Pentano-1,5-lactone	542-28-9		10907				EFSA
10.056	Phthalide	87-41-2						EFSA
10.057	3a,4,5,7a-Tetrahydro-3,6-dimethylbenzofuran-2(3H)-one	57743-63-2					2	EFSA
10.058	Tridecano-1,5-lactone	7370-92-5		10902				EFSA
10.059	Hexadec-7-en-1,16-lactone	123-69-3						EFSA
10.060	2-Decen-1,4-lactone	2518-53-8					2	EFSA
10.061	cis-5-Hexenyldihydro-5-methylfuran-2(3H)-one	70851-61-5	1159					EFSA
10.063	Hexadec-9-en-1,16 lactone	28645-51-4	1991					EFSA
10.066	Furan-2(5H)-one						2	EFSA
10.068	Pentadecano-1,14-lactone	32539-85-8						EFSA
10.069	3-Methyl gamma-deca-lactone	67663-01-8	1158		At least 94% (sum of cis and trans isomers); secondary component 1-2% heptan-1-ol			EFSA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
10.070	4-Methyl-5-hexen-1,4-olide	1073-11-6	1157					EFSA
10.072	Dimethyl-3,6-benzo-2(3H)-furanone	65817-24-5	1167					EFSA
10.168	5,6-Dimethyl-tetrahydro-pyran-2-one	10413-18-0						EFSA
10.169	5,6,7,7alpha-Tetrahydro-4,4,7alpha-trimethyl-2-(4H)-benzofuranone	15356-74-8	1164		At least 90%; secondary components 3-5 % 2,9-dimethyl 3,8-decanedione, 3-5% 4-hydroxy-5,6-oxo- beta-ionone			EFSA
10.170	5-Pentyl-3H-furan-2-one	51352-68-2	1989		Mixture of 3H- and 5H-isomers (2:1)		2	EFSA
11.001	3-Methylbutylamine	107-85-7	1587	512				EFSA
11.002	Isobutylamine	78-81-9	1583	513				EFSA
11.003	Butylamine	109-73-9	1582	524				EFSA
11.004	Propylamine	107-10-8	1580	601				EFSA
11.005	sec-Butylamine	13952-84-6	1584	707				EFSA
11.006	Phenethylamine	64-04-0	1589	708				EFSA
11.007	2-(4-Hydroxyphenyl)ethylamine	51-67-2	1590	709				EFSA
11.008	2-Aminoacetophenone	551-93-9		2041			4	EFSA
11.009	Trimethylamine	75-50-3	1610	10497				EFSA
11.015	Ethylamine	75-04-7	1579	10477				EFSA
11.016	Hexylamine	111-26-2	1588	10478				EFSA
11.017	N-Isopentylidene isopentylamine	35448-31-8	1606					EFSA
11.018	Isopropylamine	75-31-0	1581	10480				EFSA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
11.020	2-Methylbutylamine	96-15-1	1586	10484				EFSA
11.021	Pentylamine	110-58-7	1585	11734				EFSA
11.023	Triethylamine	121-44-8	1611	10496				EFSA
11.025	Trimethylamine oxide	1184-78-7	1614	10494				EFSA
11.026	Tripopylamine	102-69-2	1612	10495				EFSA
12.001	3-(Methylthio)propionaldehyde	3268-49-3	466	125				JECFA
12.002	Methyl 3-(methylthio)propionate	13532-18-8	472	428				JECFA
12.003	Methanethiol	74-93-1	508	475				JECFA
12.004	Allylthiol	870-23-5	521	476	At least 75%; secondary components 20-25% allyl disulfide and 5-7% allylsulfide			JECFA
12.005	Phenylmethanethiol	100-53-8	526	477				JECFA
12.006	Dimethyl sulfide	75-18-3	452	483				JECFA
12.007	Dibutyl sulfide	544-40-1	455	484				JECFA
12.008	Diallyl disulfide	2179-57-9	572	485	At least 80%; secondary components 10-15% allyl sulfide and 5-7% allyl mercaptan			JECFA
12.009	Diallyl trisulfide	2050-87-5	587	486	At least 65%; secondary components 20-25% allyl disulfide, 5-7% allylsulfide and 5-7% allyl tetrasulfide		4	JECFA
12.010	Butane-1-thiol	109-79-5	511	526				JECFA
12.012	Diethyl disulfide	110-81-6	1699	533				EFSA
12.013	Dimethyl trisulfide	3658-80-8	582	539			4	JECFA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.014	Dipropyl disulfide	629-19-6	566	540				JECFA
12.015	Dipropyl sulfide	111-47-7		541				SCF/CoE
12.016	Di-isopropyl sulfide	625-80-9		542				SCF/CoE
12.017	Ethanethiol	75-08-1	1659	546				EFSA
12.018	S-Ethyl acetothioate	625-60-5	483	11665				JECFA
12.019	Methyl propyl disulfide	2179-60-4	565	585				JECFA
12.020	Methyl propyl trisulfide	17619-36-2	584	586	At least 45%; secondary components 25% dipropyl trisulfide, 12% dipropyl disulfide, 14% dimethyl disulfide and 3% methyl propyl sulfide		4	JECFA
12.021	Allyl propyl disulfide	2179-59-1	1700	600				EFSA
12.022	Butane-2,3-dithiol	4532-64-3	539	725				JECFA
12.023	Dipropyl trisulfide	6028-61-1	585	726			4	JECFA
12.024	3-Mercaptobutan-2-ol	37887-04-0	546	760				JECFA
12.025	Allyl isothiocyanate	57-06-7	1560	2110				EFSA
12.026	Dimethyl disulfide	624-92-0	564	2175				JECFA
12.027	2-Methylbenzene-1-thiol	137-06-4	528	2272				JECFA
12.028	Dicyclohexyl disulfide	2550-40-5	575	2320				JECFA
12.029	Cyclopentanethiol	1679-07-8	516	2321				JECFA

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.030	3-(Methylthio)propyl isothiocyanate	505-79-3	1564	2326				EFSA
12.031	3-Mercaptopentan-2-one	67633-97-0	560	2327				JECFA
12.032	S-Methyl butanethioate	2432-51-1	484	2328				JECFA
12.033	Naphthalene-2-thiol	91-60-1	531	2330				JECFA
12.034	Octane-1,8-dithiol	1191-62-4	541	2331				JECFA
12.035	2,3- and 10-Mercaptopinane		520	2332	Mixture of isomers (about 54 % of 10-isomer, about 31 % of 2-isomer, about 10 % of 3-isomer)			JECFA
12.036	3-[(2-Mercapto-1-methylpropyl)thio]butan-2-ol	54957-02-7	547	2353				JECFA
12.037	Allyl methyl disulfide	2179-58-0	568	11866	At least 90%; secondary components 3-5% dimethyl sulfide and 3-5% diallyl sulfide			JECFA
12.038	8-Mercapto-p-menthan-3-one	38462-22-5	561	11789			2	JECFA/EFSA
12.039	2-Mercaptopropionic acid	79-42-5	551	11790				JECFA
12.040	2-Methylthioacetaldehyde	23328-62-3	465	11686				JECFA
12.041	1-(Methylthio)butan-2-one	13678-58-5	496	11543				JECFA
12.042	2-(Methylthio)phenol	1073-29-6	503	11553				JECFA
12.043	Diphenyl disulfide	882-33-7	578	11757				JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.044	Prop-1-enyl propyl disulfide	5905-46-4	570	11699	At least 92%; secondary component 3-6% dipropyl disulfide			JECFA
12.045	Methyl allyl trisulfide	34135-85-8	586	11867	At least 80%; secondary components 10-12% dimethyl trisulfide and 6-8% allyl trisulfide		4	JECFA
12.046	Ethyl 2-mercaptopropionate	19788-49-9	552	11469				JECFA
12.047	3-Mercaptobutan-2-one	40789-98-8	558	11497				JECFA
12.048	2-Methylbutane-1-thiol	1878-18-8	515	11509				JECFA
12.049	3-Methylbutane-2-thiol	2084-18-6	517	11510				JECFA
12.052	Di-(3-oxobutyl) sulfide	40790-04-3	502	11441				JECFA
12.053	Ethyl 3-(methylthio)propionate	13327-56-5	476	11476				JECFA
▼ <b>M17</b>								
12.054	2-Ethylthiophenol	4500-58-7	529	11666				JECFA
▼ <b>M1</b>								
12.055	4-Mercaptobutan-2-one	34619-12-0	559	11498				JECFA
12.056	3-(Methylthio)butanal	16630-52-7	467	11687				JECFA
12.057	4-(Methylthio)butan-2-one	34047-39-7	497	11688				JECFA
12.058	4-(Methylthio)-4-methylpentan-2-one	23550-40-5	500	11551				JECFA
12.059	Propyl thioacetate	2307-10-0	485	11576				JECFA
12.060	Methyl 4-(methylthio)butyrate	53053-51-3	474	11526				JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.061	4-(Methylthio)butanal	42919-64-2	468	11542				JECFA
12.062	3-(Methylthio)propan-1-ol	505-10-2	461	11554				JECFA
12.063	3-(Methylthio)hexan-1-ol	51755-66-9	463	11548				JECFA
12.064	Thiogeraniol	39067-80-6	524	11583				JECFA
12.065	2,8-dithianon-4-en-4-carboxaldehyde	59902-01-1	471	11904			1	EFSA
12.066	Ethane-1,2-dithiol	540-63-6	532	11467				JECFA
12.067	Hexane-1,6-dithiol	1191-43-1	540	11486				JECFA
12.068	Benzyl methyl disulfide	699-10-5	577	11508				JECFA
12.069	Nonane-1,9-dithiol	3489-28-9	542	11558				JECFA
12.070	Propane-1,2-dithiol	814-67-5	536	11564				JECFA
12.071	1-Propane-1-thiol	107-03-9	509	11816				JECFA
12.072	Butane-1,2-dithiol	16128-68-0	537	11909				JECFA
12.073	Butane-1,3-dithiol	24330-52-7	538	11910				JECFA
12.074	Diallyl polysulfides	72869-75-1	588	11912			4	JECFA
▼ <b>M3</b> 12.075	Methyl prop-1-enyl disulfide	5905-47-5	569	11712	At least 90 %; secondary components 3-4 % dimethyl disulfide and 3-4 % di-1-propenyl disulfide			JECFA
▼ <b>M1</b> 12.076	Propane-1,3-dithiol	109-80-8	535	11929				JECFA
12.077	Benzyl methyl sulfide	766-92-7	460					EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.078	4-(Methylthio)butan-1-ol	20582-85-8	462					JECFA
12.079	2-(methylthiomethyl)but-2-enal	40878-72-6	470	11549			1	EFSA
12.080	Thiophenol	108-98-5	525	11585				JECFA
12.081	Dibenzyl disulfide	150-60-7	579					JECFA
12.082	2,6-(Dimethyl)thiophenol	118-72-9	530					JECFA
12.083	Ethyl 3-mercaptopropionate	5466-06-8	553					JECFA
12.084	Ethyl 4-(methylthio)butyrate	22014-48-8	477					JECFA
12.085	p-Menth-1-ene-8-thiol	71159-90-5	523				2	EFSA
▼ <b>M3</b>								
12.086	S-Methyl 2-methylbutanethioate	42075-45-6	486					JECFA
▼ <b>M1</b>								
12.087	2-(Methylthiomethyl)-3-phenylpropenal	65887-08-3	505					JECFA
12.088	Diallyl sulfide	592-88-1	458	11846				EFSA
12.089	Ethyl 3-(methylthio)butyrate		480	11475				JECFA
12.096	Allyl methyl sulfide	10152-76-8		11429				EFSA
12.098	Allyl prop-1-enyl disulfide	33368-82-0		11433				EFSA
12.099	Allyl propyl sulfide	27817-67-0		11434				EFSA



▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.101	Allyl thiopropionate	41820-22-8	490	11436	At least 83%; secondary component 15-18% diallyl sulfide			JECFA
12.102	Benzyl isothiocyanate	622-78-6	1562	11863				EFSA
12.103	Butane-1,4-dithiol	1191-08-8						EFSA
12.104	Butane-2-thiol	513-53-1						EFSA
12.106	S-2-Butyl 3-methylbutanethioate	2432-91-9						EFSA
12.107	Butyl isothiocyanate	592-82-5	1561	11488				EFSA
12.108	Di-isopentyl thiomalate	68084-03-7	1672	11454				EFSA
12.109	Di-isopropyl disulfide	4253-89-8	567	11455				JECFA
12.111	Dibutyl disulfide	629-45-8						EFSA
12.113	Diethyl sulfide	352-93-2	454	11450				JECFA
▼ <u>M4</u>								
▼ <u>M1</u>								
12.117	Dipentyl sulfide	872-10-6						EFSA
12.118	2,4-Dithiapentane	1618-26-4	533					JECFA
▼ <u>M4</u>								
▼ <u>M1</u>								
12.121	Ethyl 2-(methylthio)propionate	23747-43-5	581	11471				JECFA
12.122	Ethyl 2-(methylthio)acetate	4455-13-4	475					JECFA
12.124	Ethyl butyl sulfide	638-46-0						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.125	Ethyl propanethioate	2432-42-0						EFSA
12.126	Ethyl propyl disulfide	30453-31-7	1694	11478				EFSA
12.127	Ethyl propyl sulfide	4110-50-3		11479				EFSA
12.128	2-Ethylhexane-1-thiol	7341-17-5	519					JECFA
12.129	3-(Ethylthio)propan-1-ol	18721-61-4						EFSA
12.130	Heptane-1-thiol	1639-09-4	1663	11485				EFSA
12.132	Hexane-1-thiol	111-31-9	518	11487				JECFA
12.134	S-Isopropyl 3-methylbut-2-enethioate	34365-79-2	1679					EFSA
12.135	3-Mercapto-2-methylpropionic acid	26473-47-2						EFSA
12.136	3-Mercapto-2-oxopropionic acid	2464-23-5						EFSA
12.137	3-Mercapto-3-methylbutan-1-ol	34300-94-2	544				2	EFSA
12.138	3-Mercapto-3-methylbutyl formate	50746-10-6	549				2	EFSA
12.139	2-Mercaptoanisole	7217-59-6	1666	11880				EFSA
12.143	1-Mercaptopropan-2-one	24653-75-6	557					JECFA
12.145	4-Methoxy-2-methylbutane-2-thiol	94087-83-9	548				2	EFSA
12.146	Methyl (methylthio)acetate	16630-66-3	1691	11525				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.148	S-Methyl 4-methylpentanethioate	61122-71-2	488					JECFA
12.149	S-Methyl acetothioate	1534-08-3	482					JECFA
12.150	S-Methyl benzothioate	5925-68-8	504	11505				JECFA
12.151	Methyl butyl disulfide	60779-24-0						EFSA
12.152	Methyl butyl sulfide	628-29-5						EFSA
12.153	Methyl ethyl disulfide	20333-39-5	1693	11470	At least 80%, secondary components 7-8% diethyl sulfide and 8-10% dimethyl sulfide			EFSA
12.154	Methyl ethyl sulfide	624-89-5	453	11474				JECFA
12.155	Methyl ethyl trisulfide	31499-71-5	583				4	JECFA
12.156	S-Methyl hexanethioate	20756-86-9	489	11515				JECFA
12.157	S-Methyl isopentanethioate	23747-45-7	487	11506				JECFA
12.158	Methyl 3-methyl-2-butenylsulfide	5897-45-0						EFSA
▼ <b>M4</b>								
▼ <b>M1</b>								
12.161	Methyl phenyl disulfide	14173-25-2	576	11532				JECFA
12.162	Methyl phenyl sulfide	100-68-5	459	11533				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.163	Methyl prop-1-enyl sulfide	10152-77-9		11538				EFSA
12.165	S-Methyl propanethioate	5925-75-7	1678					EFSA
12.166	Methyl propyl sulfide	3877-15-4		11541				EFSA
12.168	2-Methyl-2-(methyl-dithio)propanal	67952-60-7	580					JECFA
12.169	2-Methyl-4-oxopentane-2-thiol	19872-52-7	1293	11500	48% 2-methyl-4-oxopentane-2-thiol and 48-50% 4-methyl-3-penten-2-one.		2	EFSA
12.170	3-Methylbut-2-ene-1-thiol	5287-45-6	522	11511				JECFA
12.171	3-Methylbutane-1-thiol	541-31-1	513					JECFA
12.173	2-Methylpropane-1-thiol	513-44-0	512	11536				JECFA
12.175	Methylsulfinylmethane	67-68-5	507					JECFA
12.176	4-(Methylthio)-2-oxobutyric acid	583-92-6	501					JECFA
12.177	8-(Methylthio)-p-menthan-3-one	32637-94-8						EFSA
12.178	3-(Methylthio)butyric acid	16630-65-2						EFSA
12.179	2-(Methylthio)ethan-1-ol	5271-38-5	1297	11545				EFSA
12.180	1-(Methylthio)ethane-1-thiol	31331-53-0						EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.181	1-(Methylthio)pentan-3-one	66735-69-1						EFSA
12.182	2-(Methylthio)propionic acid	58809-73-7						EFSA
12.183	3-(Methylthio)propionic acid	646-01-5						EFSA
12.187	Methylthiomethyl butyrate	74758-93-3	473					JECFA
12.188	Methylthiomethyl hexanoate	74758-91-1	479					JECFA
12.189	S-(Methylthiomethyl) 2-methylpropanethioate	77974-85-7						EFSA
12.191	Pentane-1-thiol	110-66-7	1662					EFSA
12.192	Pentane-2-thiol	2084-19-7	514					JECFA
12.193	Phenethyl isothiocyanate	2257-09-2	1563	11495				EFSA
12.194	2-Phenylethane-1-thiol	4410-99-5	527	11561				JECFA
12.195	S-Prenyl thioacetate	33049-93-3	491					JECFA
12.196	S-Prenyl thioisobutyrate	53626-94-1						EFSA
12.197	Propane-2-thiol	75-33-2	510	11565				JECFA
12.198	2,3,5-Trithiahexane	42474-44-2	1299					EFSA
12.200	1,1-bis(Ethylthio)-ethane	14252-42-7						EFSA
12.201	8-Acetylthio-p-menthanone-3	94293-57-9	506					JECFA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.203	Methylthio 2-(acetyloxy) propionate	74586-09-7	492					JECFA
12.205	Mercaptoacetaldehyde	4124-63-4						EFSA
12.211	But-1-enyl methyl sulphide		457					JECFA
12.212	Ethyl-5-(methylthio)valerate	233665-98-0	1298					EFSA
12.214	Isobutyl-3-(methylthio)butyrate	127931-21-9	1677					EFSA
12.217	3-Mercaptohexan-1-ol		545					JECFA
12.218	Methyl-3-methyl-1-butenyl disulphide		571					JECFA
12.221	S-Prenyl thioisopentanoate	75631-91-3						EFSA
12.227	Methylthio-2-(propionyloxy)propionate		493					JECFA
12.234	3-Mercaptohexyl acetate	136954-20-6	554		At least 82%; secondary components 8% 3-mercaptohexanol and 10% 3-acetylmercaptohexyl acetate			JECFA
12.235	3-Mercaptohexyl butyrate	136954-21-7	555		At least 90%; secondary component 5-6% 3-mercaptohexanol			JECFA
12.236	3-(Methylthio)hexyl acetate	51755-85-2	481					JECFA
12.237	3-(Methylthio)propyl acetate	16630-55-0	478					JECFA
12.238	3-Mercapto-2-methylpentan-1-ol	227456-27-1	1291					EFSA
12.239	3-Mercapto-2-methylpentanal	227456-28-2	1292					EFSA



▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.265	(E)-2-Methyl-1-methylthio-2-butene	89534-74-7	1683					EFSA
▼ <b>M11</b>								
▼ <b>M1</b>								
12.267	Propyl-2-mercaptopropionate	19788-50-2	1667					EFSA
▼ <b>M4</b>								
▼ <b>M3</b>								
12.273	3-(Methylthio)heptanal	51755-70-5	1692		At least 92 %; secondary component 5-7 % (E)-hept-2-enal			EFSA
▼ <b>M1</b>								
12.274	3,6-Diethyl-1,2,4,5-tetrathiane and 3,5-diethyl-1,2,4-trithiolane mix in vegetable oil triglycerides	54644-28-9, 54717-12-3	1687		0.18% 3,6-diethyl-1,2,4,5-tetrathiane isomer I+ II; 0.05% 3,5-diethyl-1,2,4-trithiolane isomer I; 0.1% 3,5-diethyl-1,2,4-trithiolane isomer II; 99% vegetable oil triglyceride			EFSA
12.275	Allyl thiohexanoate	156420-69-8	1681					EFSA
12.276	(S)-1-Methoxy-3-heptanethiol	400052-49-5	1671					EFSA
12.277	3-(Methylthio)propyl butyrate	16630-60-7						EFSA
12.278	3-Acetyl-mercaptohexyl acetate	136954-25-1						EFSA
12.279	3-Methylthiohexanal	38433-74-8	469					JECFA
12.280	Diisopropyl trisulphide	5943-34-0	1300				4	EFSA
12.282	(S)-Methyl octanethioate	2432-83-9						EFSA
12.283	3-Butenyl isothiocyanate	3386-97-8	1889					EFSA



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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.284	bis(1-Mercaptopropyl)sulphide	53897-60-2	1709					EFSA
12.285	3-Methylthio-2-butanone	53475-15-3	1688					EFSA
12.286	4-Methylthio-2-pentanone	143764-28-7	1689					EFSA
12.287	Methyl 3-(methylthio)butanoate	207983-28-6	1690					EFSA
12.288	Heptan-2-thiol	628-00-2	1664					EFSA
12.289	1-Phenylethylmercaptan	6263-65-6	1665					EFSA
12.290	Methyl-3-mercaptoputanoate	54051-19-3	1674					EFSA
12.291	3-Mercapto-2-methyl-1-butanol	227456-33-9	1289					EFSA
12.292	Hexyl 3-mercaptoputanoate	796857-79-9	1704					EFSA
12.293	Ethane-1,1-dithiol	69382-62-3	1660		1% solution of ethane-1,1-dithiol, solvent 95% ethanol			EFSA
12.294	Isopentyl methyl disulfide	72437-56-0	1696					EFSA
12.297	3-Mercaptoheptyl acetate	548774-80-7	1708					EFSA
12.298	Di-(1-propenyl)-sulfid (mixture)	65819-74-1, 37981-37-6, 37981-36-5						EFSA
12.299	3-(Methylthio)propyl hexanoate	906079-63-8						EFSA
12.300	1,1-Propanedithiol	88497-17-0						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
12.301	Methyl-2-oxo-propyl disulfide	122861-78-3			At least 90%, secondary components 1-mercaptopropan-2-one (less than 8%), 1,1-disulfanediyldiprop-2-one (less than 5%) and 1,3-dimethyltrisulfane (less than 3%)			EFSA
12.302	2-Butanol, 4-mercapto-3-methyl	33959-27-2						EFSA
12.303	3-Pentanethiol	616-31-9						EFSA
12.304	Ethyl-2-mercapto-2-methyl propanoate	33441-50-8					1	EFSA
12.305	2-Mercapto-4-heptanol	1006684-20-3						EFSA
12.306	3-(Methylthio)-decanal	1256932-15-6						EFSA
13.001	5-Methylfurfural	620-02-0	745	119				EFSA
13.002	Methyl 2-furoate	611-13-2	746	358				EFSA
13.003	Propyl 2-furoate	615-10-1	747	359				EFSA
13.004	Allyl 2-furoate	4208-49-5	21	360			2	EFSA
13.005	Hexyl 2-furoate	39251-86-0	749	361				EFSA
13.006	Phenethyl 2-furoate	7149-32-8	1517	362				EFSA
13.007	2-(3-Phenylpropyl)tetrahydrofuran	3208-40-0	1441	489				EFSA
13.009	3,4-Dihydrocoumarin	119-84-6	1171	535				EFSA
13.010	4-Hydroxy-2,5-dimethyl-furan-3(2H)-one	3658-77-3	1446	536			1	EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.011	(E)-Ethyl furfuracrylate	623-20-1		545				EFSA
13.012	6-Methylcoumarin	92-48-8	1172	579				EFSA
13.015	bis-(2,5-Dimethyl-3-furyl) disulfide	28588-73-0	1067	722				EFSA
13.016	bis-(2-Methyl-3-furyl) disulfide	28588-75-2	1066	723				EFSA
13.017	bis-(2-Methyl-3-furyl) tetra-sulfide	28588-76-3	1068	724				EFSA
13.018	Furfural	98-01-1	450	2014				EFSA
13.019	Furfuryl alcohol	98-00-0	451	2023				EFSA
13.020	Tetrahydrofurfuryl alcohol	97-99-4	1443	2029				EFSA
13.021	Isopentyl 4-(2-furan)butyrate	7779-66-0	1516	2080				EFSA
13.022	Ethyl 3(2-furyl)propionate	10031-90-0	1513	2091				EFSA
13.023	Isopentyl 3-(2-furan)propionate	7779-67-1	1515	2092				EFSA
13.024	Isobutyl 3-(2-furyl)propionate	105-01-1	1514	2093				EFSA
13.025	Pentyl 2-furoate	1334-82-3	748	2109				EFSA
13.026	2-Furanmethanethiol	98-02-2	1072	2202				EFSA
13.027	2-Pentyl-5 or 6-keto-1,4-dioxane	65504-96-3	1485	2205				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
▼ <b>M3</b> 13.028	2-Butyl-5 or 6-keto-1,4-dioxane	65504-95-2	1484	2206				EFSA
▼ <b>M4</b> _____								
▼ <b>M1</b> 13.031	2-Benzofurancarbox-aldehyde	4265-16-1	751	2247				EFSA
13.032	Furfuryl isopropyl sulfide	1883-78-9	1077	2248				EFSA
13.033	S-Furfuryl acetothioate	13678-68-7	1074	2250				EFSA
13.034	3-(2-furyl)acrylaldehyde	623-30-3	1497				1	EFSA
13.037	2-(2-Methylprop-1-enyl)-4-methyltetrahydropyran	16409-43-1	1237	2269				EFSA
13.038	2-Phenyl-3-carbethoxyfuran	50626-02-3	752	2309				EFSA
13.039	2,4,5-Trimethyl-delta-3-oxazoline	22694-96-8	1559	2319				EFSA
13.040	(S)-2,5-dimethyl-3-thiofurolyfuran	65505-16-0	1071	2323				EFSA
13.041	2,5-Dimethyl-3-(isopentylthio)furan	55764-28-8	1070	2324				EFSA
13.042	4,5-Dihydro-2-methylfuran-3(2H)-one	3188-00-9	1448	2338				EFSA
13.043	Furfurylidene-2-butanal	770-27-4	1501	11885			1	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.044	4-(2-Furyl)but-3-en-2-one	623-15-4	1511	11838			1	EFSA
13.045	1-(2-Furyl)propan-2-one	6975-60-6	1508	11837			4	EFSA
13.046	3-(2-Furyl)-2-methylprop-2-enal	874-66-8	1498	11878			1	EFSA
13.047	Propyl 3-(2-furyl)acrylate	623-22-3	1518	11842				EFSA
13.048	Tetrahydrofurfuryl butyrate	2217-33-6	1444	11841				EFSA
13.049	Tetrahydrofurfuryl propionate	637-65-0	1445	11843				EFSA
13.050	Difurfuryl disulfide	4437-20-1	1081	11480				EFSA
13.051	S-Furfuryl thioformate	59020-90-5	1073	11770				EFSA
▼ <b><u>M7</u></b>								
▼ <b><u>M1</u></b>								
13.053	Methyl furfuryl sulfide	1438-91-1	1076	11482				EFSA
13.054	2-Acetylfuran	1192-62-7	1503				4	EFSA
13.055	2-Methylfuran-3-thiol	28588-74-1	1060	11678				EFSA
▼ <b><u>M7</u></b>								
▼ <b><u>M1</u></b>								
13.057	Furfuryl isovalerate	13678-60-9	743	10642				EFSA
▼ <b><u>M17</u></b>								
13.058	3-(5-Methyl-2-furyl) butanal	31704-80-0	1500	10355				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.059	2-Pentylfuran	3777-69-3	1491	10966			3	EFSA
13.060	Tetrahydrofurfuryl cinnamate	65505-25-1	1447	11821				EFSA
▼M7								
▼M1								
13.062	Furfuryl propionate	623-19-8	740	10646				EFSA
13.063	S-Furfuryl propanethioate	59020-85-8	1075	11484				EFSA
13.064	Methyl furfuryl disulfide	57500-00-2	1078	11513				EFSA
13.065	2-Methyl-5-(methylthio)furan	13678-59-6	1062	11550				EFSA
13.066	3-Acetyl-2,5-dimethylfuran	10599-70-9	1506	10921			4	EFSA
13.067	Furfuryl octanoate	39252-03-4	742	10645				EFSA
13.068	Furfuryl valerate	36701-01-6	741	10647				EFSA
13.069	2-Heptylfuran	3777-71-7	1492	10952			3	EFSA
13.070	2-Hexanoylfuran	14360-50-0	1512	11180			4	EFSA
13.071	2,5-Dimethylfuran-3-thiol	55764-23-3	1063	11457				EFSA
13.072	1,5,5,9-Tetramethyl-13-oxatricyclo [8.3.0.0.(4.9)]tridecane	3738-00-9	1240	10514				EFSA
13.073	Octyl 2-furoate	39251-88-2	750	10864				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.074	2,3-Dimethylbenzofuran	3782-00-1	1495	11913				EFSA
13.075	2,6-Dimethyl-3-((2-methyl-3-furyl)thio)heptan-4-one	61295-51-0	1086	11915	At least 94%; secondary component at least 1% 2,6-dimethyl-2-[(2-methyl-3-furyl)thio]-4-heptanone			EFSA
13.076	6-Hydroxydihydrotheaspirane	65620-50-0	1648	11917			2	EFSA
13.077	3-((2-Methyl-3-furyl)thio)heptan-4-one	61295-41-8	1085	11922				EFSA
13.078	4-((2-Methyl-3-furyl)thio)nonan-5-one	61295-50-9	1087	11923				EFSA
13.079	Methyl 2-methyl-3-furyl disulfide	65505-17-1	1064	11924				EFSA
13.082	Propyl 2-methyl-3-furyl disulfide	61197-09-9	1065					EFSA
13.083	2-Acetyl-5-methylfuran	1193-79-9	1504	11038			4	EFSA
13.084	2-Ethyl-4-hydroxy-5-methyl-3(2H)-furanone	27538-09-6	1449				1	EFSA
13.085	4-Hydroxy-5-methylfuran-3(2H)-one	19322-27-1	1450	11785			1	EFSA
13.086	4,5-Dihydro-2-methyl-3-thioacetoxyfuran	26486-14-6	1089					EFSA
13.087	6-Acetoxydihydrotheaspirane	57893-27-3	1647				2	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.088	3,6-Dihydro-4-methyl-2-(2-methylprop-1-en-1-yl)-2H-pyran	1786-08-9	1235					EFSA
13.089	2,5-Dimethyl-4-methoxyfuran-3(2H)-one	4077-47-8	1451				2	EFSA
13.090	2,2-Dimethyl-5-(1-methylprop-1-enyl)tetrahydrofuran	7416-35-5	1452	10937				EFSA
13.091	4,5-Dimethyl-2-ethylloxazole	53833-30-0	1555					EFSA
13.093	Ethyl 3-(2-furfurylthio)propionate	94278-27-0	1088					EFSA
13.094	2,6,6-Trimethyl-2-vinyltetrahydrofuran	7392-19-0	1236	10976				EFSA
13.095	2,5-Diethyltetrahydrofuran	41239-48-9	1453	11882				EFSA
13.097	Anhydrolinalool oxide (5)	13679-86-2	1455	11944			2	EFSA
13.098	Theaspirane	36431-72-8	1238	10515				EFSA
13.099	4-Acetoxy-2,5-dimethylfuran-3(2H)-one	4166-20-5	1456				1	EFSA
13.101	2-Acetyl-3,5-dimethylfuran	22940-86-9	1505				4	EFSA
13.102	Butyl 2-furoate	583-33-5						EFSA
13.103	2-Butylfuran	4466-24-4	1490	10927			3	EFSA

▼ **M4**▼ **M1**



▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.105	2-Butyrylfuran	4208-57-5	1507				4	EFSA
13.106	2-Decylfuran	83469-85-6	1493				3	EFSA
13.108	4,5-Dihydro-3-mercapto-2-methylfuran	26486-13-5						EFSA
13.112	4,5-Dimethyl-2-propyloxazole	53833-32-2	1569	11379				EFSA
13.113	2,5-Dimethyl-3-(methyl-dithio)furan	61197-06-6						EFSA
13.114	2,5-Dimethyl-3-(methyl-thio)furan	63359-63-7						EFSA
13.115	2,4-Dimethyl-3-oxazoline	77311-02-5	1558					EFSA
13.116	2,5-Dimethyl-3-thioacetoxymfuran	55764-22-2	1523					EFSA
13.117	2,5-Dimethyl-4-ethoxyfuran-3(2H)-one	65330-49-6					2	EFSA
13.118	2,5-Dimethyl-4-ethylloxazole	30408-61-8	1554					EFSA
13.119	2,5-Dimethylfuran-3(2H)-one	14400-67-0		11066			2	EFSA
13.120	2,5-Dimethyltetrahydrofuran	1003-38-9						EFSA
13.122	Ethyl 2-furoate	614-99-3		10588				EFSA
13.124	Ethyl furfuryl sulfide	2024-70-6						EFSA

▼ **M7**▼ **M1**

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.125	2-Ethyl-5-methylfuran	1703-52-2		10942			3	EFSA
13.127	Furfuryl 2-methylbutyrate	13678-61-0		10643				EFSA
13.128	Furfuryl acetate	623-17-6	739	2065				EFSA
13.129	Furfuryl but-2(E)-enoate	59020-84-7						EFSA
13.130	Furfuryl butyrate	623-21-2	759	638				EFSA
13.132	Furfuryl hexanoate	39252-02-3						EFSA
13.133	Furfuryl isobutyrate	6270-55-9		10641				EFSA
13.134	1-Furfurylpyrrole	1438-94-4	1310	2317			4	EFSA
13.135	1-(2-Furfurylthio)propanone	58066-86-7						EFSA
13.136	2-Furoic acid	88-14-2		10098				EFSA
13.137	3-(2-Furyl)-2-phenylprop-2-enal	65545-81-5	1502	11928			1	EFSA
13.138	1-(2-Furyl)butan-3-one	699-17-2	1510	11084			4	EFSA
13.139	5-Hydroxymethylfurfuraldehyde	67-47-0		11112				EFSA
13.140	Linalool oxide (5-ring)	1365-19-1	1454	11876				EFSA
13.141	Methyl (2-furfurylthio)acetate	108499-33-8						EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.142	S-Methyl 2-furanthiocarboxylate	13679-61-3	1083	11547				EFSA
13.143	Methyl 3-(furfurylthio)propionate	94278-26-9						EFSA
13.144	Methyl 5-methylfurfuryl disulfide	78818-78-7						EFSA
13.145	Methyl 5-methylfurfuryl sulfide	13679-60-2		11522				EFSA
13.146	Methyl furfuryl trisulfide	66169-00-4						EFSA
13.148	3-Methyl-2(3-methylbut-2-enyl)furan	15186-51-3	1494				3	EFSA
13.149	5-Methyl-2-furanmethanethiol	59303-05-8						EFSA
13.150	3-(5-Methyl-2-furyl)prop-2-enal	5555-90-8	1499				1	EFSA
13.151	2-Methyl-3,5 and 6-(furfurylthio)pyrazine	65530-53-2	1082	2287	Mixture of isomers: 70% 2,3-; 29% 2,6;-trace 2,5-			EFSA
13.152	2-Methyl-3-(methylthio)furan	63012-97-5	1061					EFSA
13.153	2-Methyl-3-furyl thioacetate	55764-25-5	1069		At least 92%; secondary component 5-7 % cis- and trans-2-methyl-3-tetrahydrofuranthiol acetate			EFSA
13.154	2-Methyl-4,5-benzo-oxazole	95-21-6	1557					EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.160	2-Methyltetrahydrofuran-3-thiol	57124-87-5	1090				4	EFSA
13.161	Octahydrocoumarin	4430-31-3	1166					EFSA
13.162	2-Octylfuran	4179-38-8		10965			3	EFSA
13.163	2-Pentanoylfuran	3194-17-0	1509				4	EFSA
13.165	6,7,8,8a-Tetrahydro-2,5,5,8a-tetramethyl-5H-1-benzopyran	5552-30-7	1239					EFSA
13.166	Tetrahydrofurfuryl acetate	637-64-9	1442	2069				EFSA
13.167	(tetrahydrofuryl)methyl phenylacetate	5421-00-1						EFSA
13.169	Trimethyloxazole	20662-84-4	1553	11424				EFSA
▼ <b>M3</b>								
13.170	2S-cis-Tetrahydro-4-methyl-2-(2-methyl-1-propenyl)-2H-pyran	3033-23-6						EFSA
▼ <b>M1</b>								
13.175	4-Acetyl-2,5-dimethylfuran-3(2H)-one						2	EFSA
13.176	Furaneyl butyrate	114099-96-6	1519				1	EFSA
13.178	3-[(2-Furfuryl)dithio]-2-methyl-furan	109537-55-5	1524					EFSA
13.185	3-[(2-Furfuryl)dithio]-2-butanone	159113-17-4						EFSA
13.189	Linalool oxide(5) acetate	56469-39-7						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
13.190	3-((2-methyl-3-furyl)thio)-2-butanone	61295-44-1	1525					EFSA
13.193	2,5-Dimethyltetrahydro-3-furanthiol	26486-21-5	1091				4	EFSA
13.194	2,5-Dimethyltetrahydro-3-furyl thio acetate	252736-39-3	1092				4	EFSA
13.195	2-Isobutyl-4,5-dimethyl oxazole	26131-91-9	1556					EFSA
13.196	[(2-furanylmethyl)thio]-2-pentanone	180031-78-1	1084					EFSA
13.197	Furfuryl propyl disulphide	252736-36-0	1079					EFSA
13.198	3,6-Dimethyl-2,3,3a,4,5,7a-hexahydrobenzofuran	70786-44-6						EFSA
13.199	3-[(2-Methyl-3-furyl)thio]-butanal	915971-43-6						EFSA
13.200	5-isopropyl-2,6-diethyl-2-methyltetrahydro-2H-pyran	1120363-98-5						EFSA
14.001	Isoquinoline	119-65-3	1303	487			4	EFSA
14.003	Piperine	94-62-2	1600	492			4	JECFA/ EFSA
14.004	3-Methylindole	83-34-1	1304	493				EFSA
14.005	2,3-Diethylpyrazine	15707-24-1	771	534				EFSA
14.006	2-Ethyl-3-methylpyrazine	15707-23-0	768	548				EFSA
14.007	Indole	120-72-9	1301	560				EFSA
14.010	Piperidine	110-89-4	1607	675				EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.011	Quinine hydrochloride	130-89-2		715		In categories 14.1 and 14.2 – not more than 100 mg/kg  In spirit drinks as defined in Regulation (EC) No 110/2008 - not more than 250 mg/kg  Individually or in combination with FL 14.152 and/or FL 14.155 expressed as quinine base		EFSA
14.014	5,7-Dihydro-2-methyl-thieno(3,4-d)pyrimidine	36267-71-7	1566	720				EFSA
14.015	5,6,7,8-Tetrahydroquin-oxaline	34413-35-9	952	721				EFSA
14.017	2-Ethyl-5-methylpyrazine	13360-64-0	770	728				EFSA
14.018	2,3,5,6-Tetramethylpyrazine	1124-11-4	780	734				EFSA
14.019	2,3,5-Trimethylpyrazine	14667-55-1	774	735				EFSA
14.020	2,5-Dimethylpyrazine	123-32-0	766	2210				EFSA
14.021	2,6-Dimethylpyrazine	108-50-9	767	2211				EFSA
14.022	Ethylpyrazine	13925-00-3	762	2213				EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.024	2-Ethyl-3,5-dimethylpyrazine	13925-07-0	776	2245				EFSA
14.025	2,5 or 6-Methoxy-3-methylpyrazine	2847-30-5, 2822-22-6, 2882-21-5	788	2266				EFSA
14.026	2-Isopropyl-5-methylpyrazine	13925-05-8	772	2268				EFSA
14.027	2-Methylpyrazine	109-08-0	761	2270				EFSA
14.028	5-Methylquinoxaline	13708-12-8	798	2271				EFSA
14.029	1-Phenyl-(3 or 5)-propylpyrazole	65504-93-0	1568	2277				EFSA
14.030	2-Pyridine methanethiol	2044-73-7	1308	2279				EFSA
14.031	2-Pyrazinyl ethanethiol	35250-53-4	795	2285				EFSA
14.032	Acetylpyrazine	22047-25-2	784	2286				EFSA
14.034	Pyrazinyl methyl sulfide	21948-70-9	796	2288				EFSA
14.035	2-Methyl-3,5 or 6-methylthiopyrazine	67952-65-2	797	2290	70-90% 2-methylthio-3-methylpyrazine and 10-30% 2-methylthio-5 or 6-methylpyrazine.			EFSA
14.037	6,7-Dihydro-5-methyl-5H-cyclopentapyrazine	23747-48-0	781	2314				EFSA
14.038	2-Acetylpyridine	1122-62-9	1309	2315				EFSA
14.039	3-Acetylpyridine	350-03-8	1316	2316				EFSA
▼ <u>M5</u> 14.041	Pyrrole	109-97-7	1314	2318				JECFA/ EFSA
▼ <u>M1</u> 14.042	6-Methylquinoline	91-62-3	1302	2339			4	EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.043	2-Isobutyl-3-methoxy-pyrazine	24683-00-9	792	11338				EFSA
14.044	2-Isobutyl-3-methylpyrazine	13925-06-9	773					EFSA
14.045	2-Acetyl-1-ethylpyrrole	39741-41-8	1305	11371			2	EFSA
14.046	2-Acetyl-1-methylpyrrole	932-16-1	1306	11373			2	EFSA
14.047	2-Acetylpyrrole	1072-83-9	1307	11721			2	EFSA
14.049	2-Acetyl-3-ethylpyrazine	32974-92-8	785	11293				EFSA
14.050	2,3-Dimethylpyrazine	5910-89-4	765	11323				EFSA
14.053	Mercaptomethylpyrazine	59021-02-2	794	11502				EFSA
14.054	Methoxypyrazine	3149-28-8	787	11347				EFSA
14.055	2-Acetyl-3,5-dimethylpyrazine	54300-08-2	786	11294				EFSA
14.056	2,3-Diethyl-5-methylpyrazine	18138-04-0	777	11303				EFSA
14.057	2-Isopropyl-3-methoxy-pyrazine	25773-40-4						EFSA
14.058	2-Isobutylpyridine	6304-24-1	1311	11395				EFSA
14.059	3-Isobutylpyridine	14159-61-6	1312	11396				EFSA
14.060	2-Pentylpyridine	2294-76-0	1313	11412				EFSA
14.061	3-Ethylpyridine	536-78-7	1315	11386				EFSA
14.062	2-(sec-Butyl)-3-methoxy-pyrazine	24168-70-5	791	11300				EFSA



▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.064	Pyrrolidine	123-75-1	1609	10491				EFSA
14.065	2,6-Dimethylpyridine	108-48-5	1317	11381				EFSA
14.066	5-Ethyl-2-methylpyridine	104-90-5	1318	11385				EFSA
▼ <b>M3</b>								
14.067	2-Ethoxy-3-methylpyrazine	32737-14-7	793	11921	At least 82 % 2-ethoxy-3-methylpyrazine. Secondary components 15 % 2-ethoxy-5-methylpyrazine (CAS no 67845-34-5) or 2-ethoxy-6-methylpyrazine (CAS no 53163-97-6)			EFSA
▼ <b>M1</b>								
14.068	2-Propionylpyrrole	1073-26-3	1319	11942			2	EFSA
14.069	Cyclohexylmethylpyrazine	28217-92-7	783					EFSA
14.070	4-Acetyl-2-methylpyrimidine	67860-38-2	1565					EFSA
14.071	Methyl nicotinate	93-60-7	1320					EFSA
14.072	2-(3-Phenylpropyl)pyridine	2110-18-1	1321					EFSA
14.077	2-Ethyl-(3,5 or 6)-methoxy-pyrazine (85%) and 2-Methyl-(3,5 or 6)-methoxy-pyrazine (13%)	2-Et-3-MeO: 25680-58-4, 2-Et-5-MeO: 68039-50-9, 2-Et-6-MeO: 67845-38-9, 2-Me-3-MeO: 2847-30-5, 2-Me-5-MeO: 2882-22-6, 2-Me-6-MeO: 2882-21-5	789	11329				EFSA
▼ <b>M11</b>								

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.080	2-Acetyl-1-pyrroline	99583-29-6	1604					EFSA
14.081	5-Acetyl-2,3-dimethylpyrazine	54300-10-6						EFSA
14.082	2-Acetyl-3-methylpyrazine	23787-80-6	950	11296				EFSA
14.083	2-Acetyl-5-ethylpyrazine	43108-58-3						EFSA
14.084	2-Acetyl-5-methylpyrazine	22047-27-4		11297				EFSA
▼ <b>M5</b>								
14.085	2-Acetyl-5-methylpyrrole	6982-72-5						EFSA
▼ <b>M1</b>								
14.086	2-Acetyl-6-ethylpyrazine	34413-34-8		11295				EFSA
14.087	2-Acetyl-6-methylpyrazine	22047-26-3		11298				EFSA
14.088	1-Acetylinole	576-15-8						EFSA
14.089	4-Acetylpyridine	1122-54-9						EFSA
14.091	2-Butyl-3-methylpyrazine	15987-00-5						EFSA
14.092	2-Butylpyridine	5058-19-5						EFSA
14.093	3-Butylpyridine	539-32-2						EFSA
14.095	3,5-Diethyl-2-methylpyrazine	18138-05-1	779	11305				EFSA
14.096	2,5-Diethyl-3-methylpyrazine	32736-91-7	778	11304				EFSA
14.097	2,5-Diethylpyrazine	13238-84-1		11306				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.098	6,7-Dihydro-2,3-dimethyl-5H-cyclopentapyrazine	38917-63-4	782	11309				EFSA
14.099	6,7-Dihydro-5,7-dimethyl-5H-cyclopentapyrazine	41330-21-6						EFSA
14.100	3,(5- or 6)-Dimethyl-2-ethylpyrazine	55031-15-7	775	727	About 50% 2-ethyl-3,5-dimethylpyrazine; about 50% 2-ethyl-3,6-dimethylpyrazine			EFSA
14.101	2,5-Dimethyl-3-isopropylpyrazine	40790-20-3		11318				EFSA
14.102	2,5-Dimethyl-6,7-dihydro-5H-cyclopentapyrazine	38917-61-2, 38917-62-3			Mixture of 2,5-dimethyl-6,7-dihydro-5H-cyclopentapyrazine (60-100%) and 3,5-dimethyl-6,7-dihydro-5H-cyclopentapyrazine (up to 40 %).			EFSA
14.103	2,3-Dimethylpyridine	583-61-9						EFSA
14.104	2,4-Dimethylpyridine	108-47-4						EFSA
14.105	3,4-Dimethylpyridine	583-58-4						EFSA
14.106	3,5-Dimethylpyridine	591-22-0		11382				EFSA
14.108	2,3-Dimethylquinoxaline	2379-55-7						EFSA
14.109	2-Ethoxy-3-methylpyrazine	32737-14-7						EFSA
14.110	Ethyl nicotinate	614-18-6						EFSA
14.111	3-Ethyl-2,5-dimethylpyrazine	13360-65-1						EFSA
14.112	2-Ethyl-3-methoxypyrazine	25680-58-4						EFSA

## ▼M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.113	5-Ethyl-6,7-dihydro-5H-cyclopentapyrazine	52517-53-0						EFSA
14.114	2-Ethyl-6-methylpyrazine	13925-03-6	769	11331	95% (sum of 2,5- and 2,6-isomers); 60-63% 2,5-isomer and 30-35% 2,6-isomer			EFSA
14.115	2-Ethylpyridine	100-71-0		11767				EFSA
14.116	4-Ethylpyridine	536-75-4		11387				EFSA
14.117	2-Hexylpyridine	1129-69-7						EFSA
14.118	2-Hydroxypyridine	142-08-5						EFSA
14.120	Isopropyl nicotinate	553-60-6						EFSA
14.121	2-Isopropyl-(3,5 or 6)-methoxy-pyrazine	93905-03-4	790	11344				EFSA
14.122	2-Isopropyl-3-methylthiopyrazine	67952-59-4		11342				EFSA
14.123	Isopropylpyrazine	29460-90-0	764	11343				EFSA
14.124	2-Isopropylpyridine	644-98-4		11400				EFSA
14.125	4-Isopropylpyridine	696-30-0						EFSA
14.126	2-Methoxy-3-methylpyrazine	2847-30-5						EFSA
14.127	2-Methoxy-3-propylpyrazine	25680-57-3						EFSA
14.128	2-Methyl-3-methylthiopyrazine	2882-20-4						EFSA
14.129	2-Methyl-3-propylpyrazine	15986-80-8						EFSA
14.131	2-Methylindole	95-20-5						EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
14.133	2-Methylpiperidine	109-05-7	1608					EFSA
14.134	2-Methylpyridine	109-06-8		11415				EFSA
14.135	3-Methylpyridine	108-99-6		11801				EFSA
14.136	4-Methylpyridine	108-89-4		11416				EFSA
14.137	1-Methylpyrrolidine	120-94-5						EFSA
14.140	3-Pentylpyridine	1802-20-6						EFSA
14.141	Piperazine	110-85-0	1615					EFSA
14.142	Propylpyrazine	18138-03-9	763	11362				EFSA
14.143	3-Propylpyridine	4673-31-8		11419				EFSA
14.144	Pyrazine	290-37-9	951	11363				EFSA
—								
▼ <u>M1</u>								
14.148	5,6,7,8-Tetrahydro-5-methylquinoxaline	52517-54-1						EFSA
14.150	2,4,6-Trimethylpyridine	108-75-8						EFSA
14.152	Quinine sulphate	804-63-7				In categories 14.1 and 14.2 – not more than 100 mg/kg  In spirit drinks as defined in Regulation (EC) No 110/2008 - not more than 250 mg/kg		EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						Individually or in combination with FL 14.011 and/or FL 14.155 expressed as quinine base		
14.155	Quinine monohydrochloride dihydrate	6119-47-7				In categories 14.1 and 14.2 – not more than 100 mg/kg  In spirit drinks as defined in Regulation (EC) No 110/2008 - not more than 250 mg/kg  Individually or in combination with FL 14.011 and/or FL 14.152 expressed as quinine base		EFSA
14.161	6,7-Dihydro-2,5-dimethyl-5H-cyclopentapyrazine	38917-61-2		11310				EFSA
14.164	2-Propylpyridine	622-39-9	1322					EFSA
14.167	1-Pyrroline	5724-81-2	1603					EFSA

▼ M4▼ M1▼ M11

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
▼ <b>M1</b>								
14.170	5-Ethyl-2,3-dimethyl pyrazine	15707-34-3						EFSA
15.001	2-Mercaptothiophene	7774-74-5	1052	478				EFSA
15.002	2-Methyl-5-methoxythiazole	38205-64-0	1057	736				EFSA
▼ <b>M17</b>								
15.004	5-Methyl-2-thiophenecarbaldehyde	13679-70-4	1050	2203				EFSA
▼ <b>M1</b>								
15.005	2,4-Dimethyl-5-vinylthiazole	65505-18-2	1039	2237			2	EFSA
15.006	2,5-Dihydroxy-2,5-dimethyl-1,4-dithiane	55704-78-4	562	2322				JECFA
15.007	Spiro(2,4-dithia-1-methyl-8-oxabicyclo[3.3.0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane) and Spiro(2,4-dithia-6-methyl-7-oxabicyclo[3.3.0]octane-3,3'-(1'-oxa-2'-methyl)cyclopentane)	38325-25-6	1296	2325			1	CoE/ JECFA/ EFSA
15.008	2-Thienyl disulfide	6911-51-9	1053	2333				EFSA
15.009	Trithioacetone	828-26-2	543	2334				JECFA
▼ <b>M5</b>								
15.010	2-Acetyl-2-thiazoline	29926-41-8	1759	2335				EFSA
▼ <b>M1</b>								
15.011	5-Acetyl-2,4-dimethylthiazole	38205-60-6	1055	2336				EFSA

▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
15.012	4,5-Dihydrothiophen-3(2H)-one	1003-04-9	498	2337				JECFA
15.013	2-Isobutylthiazole	18640-74-9	1034	11618				EFSA
15.014	5-(2-Hydroxyethyl)-4-methylthiazole	137-00-8	1031	11621				EFSA
15.015	4-Methyl-5-(2-acetoxyethyl)thiazole	656-53-1	1054	11620				EFSA
15.016	Benzothiazole	95-16-9	1040	11594				EFSA
15.017	4,5-Dimethylthiazole	3581-91-7	1035	11606				EFSA
15.018	4-Methyl-5-vinylthiazole	1759-28-0	1038	11633			2	EFSA
15.019	2,4,5-Trimethylthiazole	13623-11-5	1036	11650				EFSA
15.020	2-Acetylthiazole	24295-03-2	1041	11726				EFSA
15.021	2-Ethoxythiazole	15679-19-3	1056	11611				EFSA
15.022	2-(sec-Butyl)thiazole	18277-27-5	1033	11598				EFSA
15.023	4,5-Dihydro-2-methylthiophene-3(2H)-one	13679-85-1	499	11601				JECFA
—								
▼ <u>M2</u>								
▼ <u>M1</u>								
15.025	3,5-Dimethyl-1,2,4-trithiolane	23654-92-4	573	11883				JECFA
15.026	2-Isopropyl-4-methylthiazole	15679-13-7	1037					EFSA
15.027	2-Propionylthiazole	43039-98-1	1042					EFSA



▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
15.029	2-(sec-Butyl)-4,5-dimethyl-3-thiazoline	65894-82-8	1059				2	EFSA
15.030	4,5-Dimethyl-2-ethyl-3-thiazoline	76788-46-0	1058				2	EFSA
15.032	4,5-Dimethyl-2-isobutyl-3-thiazoline	65894-83-9	1045				2	EFSA
15.033	2-Ethyl 4-methylthiazole	15679-12-6	1044	11612				EFSA
15.034	2-Methyl-1,3-dithiolane	5616-51-3	534					JECFA
15.035	4-Methylthiazole	693-95-8	1043	11627				EFSA
15.036	3-Methyl-1,2,4-trithiane	43040-01-3	574					JECFA
15.038	2-Acetyl-4-methylthiazole	7533-07-5		11589				EFSA
15.039	2-Acetyl-5-methylthiazole	59303-17-2						EFSA
▼ <b>M13</b>								
15.040	2-Acetylthiophene	88-15-3		11728				EFSA
▼ <b>M1</b>								
15.044	2-Butylthiazole	37645-61-7		11597				EFSA
▼ <b>M13</b>								
15.045	2-Butylthiophene	1455-20-5						EFSA
▼ <b>M1</b>								
15.047	3,5-Di-isobutyl-1,2,4-trithiolane	92900-67-9						EFSA
15.048	3,5-Di-isopropyl-1,2,4-trithiolane	54934-99-5						EFSA
15.049	3,5-Diethyl-1,2,4-trithiolane	54644-28-9	1686					EFSA
15.050	2,5-Diethyl-4-methylthiazole	41981-71-9						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
15.051	2,5-Diethyl-4-propylthiazole	4276-68-0						EFSA
15.052	2,5-Diethylthiazole	15729-76-7						EFSA
▼ <b>M5</b>								
15.054	Dihydro-2,4,6-triethyl-1,3,5(4H)-dithiazine	54717-17-8			Mixture of diastereoisomers ((R/R), (R/S), (S/R) & (S/S))			EFSA
15.055	[2S-(2a,4a,8ab)] 2,4-Dimethyl(4H)pyrrolidino[1,2e]-1,3,5-dithiazine	116505-60-3	1763					EFSA
▼ <b>M1</b>								
15.056	3,6-Dimethyl-1,2,4,5-tetra-thiane	67411-27-2						EFSA
▼ <b>M17</b>								
15.057	4,6-Dimethyl-2-(1-methyl-ethyl)dihydro-1,3,5-dithiazine	104691-40-9			At least 44 % isopropyl-4,6-dimethyl and 27 % 4-isopropyl-2,6-dimethyl; secondary components at least 24 % 2,4,6-trimethyldihydro-1,3,5-dithiazine; 6-methyl-2,4- diisopropyl-1,3,5-dithiazine; 4-methyl-2,6- diisopropyl-1,3,5-dithiazine; 2,4,6-triisopropyl-dihydro-1,3,5-dithiazine			EFSA
▼ <b>M1</b>								
15.058	4,5-Dimethyl-2-ethylthiazole	873-64-3						EFSA
15.060	2,4-Dimethyl-3-thiazoline	60755-05-7					2	EFSA
15.061	2,5-Dimethyl-4-ethylthiazole	32272-57-4						EFSA
15.062	2,4-Dimethylthiazole	541-58-2		11605				EFSA
15.063	2,5-Dimethylthiazole	4175-66-0	1758					EFSA
▼ <b>M4</b>								
▼ <b>M1</b>								
15.066	1,4-Dithiane	505-29-3	456					JECFA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
15.067	4-Ethyl-2-methylthiazole	32272-48-3						EFSA
15.068	5-Ethyl-2-methylthiazole	19961-52-5						EFSA
15.069	4-Ethyl-5-methylthiazole	52414-91-2						EFSA
15.071	2-Ethylthiazole	15679-09-1						EFSA
▼ <b>M4</b>								
▼ <b>M13</b>								
15.074	5-Ethylthiophene-2-carb- aldehyde	36880-33-8						EFSA
15.076	2-Hexylthiophene	18794-77-9	1764	11616				EFSA
▼ <b>M1</b>								
15.078	2-Isobutyl-4,5-dimethyl- thiazole	53498-32-1		11617				EFSA
▼ <b>M17</b>								
15.079	2-Isobutyldihydro-4,6- dimethyl-1,3,5- dithiazine	101517-87-7			At least 64 % 2-isobutyl-4,6-dimethyl and 18 % 4-isobutyl-2,6-dimethyl; secondary components at least 13 % 2,4,6-trimethyl- 1,3,5-dithiazine; 2,4- diisobutyl-6-methyl- 1,3,5-dithiazine; 2,6-dimethyl-4- butyldihydro-1,3,5- dithiazine; substituted 1,3,5-thiadiazine			EFSA
▼ <b>M1</b>								
15.080	2-Isopropyl-4,5-dimethyl- thiazole	53498-30-9						EFSA
15.081	Lenthionine	292-46-6		11619				EFSA
15.082	3-Mercaptothiophene	7774-73-4						EFSA
15.083	3-Methyl-1,2,4-trithiolane	51647-38-2						EFSA
15.084	5-Methyl-2-pentylthiazole	86290-21-3						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
15.085	4-Methyl-2-propionylthiazole	13679-83-9		11622				EFSA
▼ <b>M5</b>								
15.086	2-Methyl-2-thiazoline	2346-00-1						EFSA
▼ <b>M1</b>								
15.087	2-Methyl-3-mercaptothiophene	2527-76-6						EFSA
15.089	2-Methylthiazole	3581-87-1		11626				EFSA
▼ <b>M4</b>								
▼ <b>M13</b>								
15.093	2-Octylthiophene	880-36-4						EFSA
15.096	2-Pentylthiophene	4861-58-9	2106	11634				EFSA
15.097	2-Propionylthiophene	13679-75-9		11635				EFSA
▼ <b>M1</b>								
15.098	2-Propylthiazole	17626-75-4						EFSA
15.103	1,2,4,5-Tetrathiane	291-22-5						EFSA
15.108	2-Thiophenemethanethiol	6258-63-5						EFSA
▼ <b>M17</b>								
15.109	2,4,6-Trimethyldihydro-1,3,5(4H)-dithiazine	638-17-5	1049	11649				EFSA
▼ <b>M1</b>								
15.110	2,4,6-Trimethyl-1,3,5-trithiane	2765-04-0						EFSA
15.111	1,2,4-Trithiolane	289-16-7						EFSA
▼ <b>M17</b>								
15.113	5,6-Dihydro-2,4,6-tris(2-methylpropyl)4H-1,3,5-dithiazine	74595-94-1	1048					EFSA
▼ <b>M1</b>								
15.115	2-Isobutyl-4-methyl thiazole	61323-24-8						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
15.116	2-Acetyl-4-ethylthiazole	233665-91-3						EFSA
15.118	4-Butylthiazole	53833-33-3						EFSA
15.119	2-Isobutyl-3-thiazoline	39800-92-5					2	EFSA
15.126	3-(Methylthio)-methylthiophen	61675-72-7	1765					EFSA
▼ <b>M5</b>								
15.128	2-Propionyl-2-thiazoline	29926-42-9	1760					EFSA
▼ <b>M1</b>								
15.130	5-Ethyl-4-methyl-2-(2-methylpropyl)-thiazoline	83418-53-5	1761				2	EFSA
15.131	5-Ethyl-4-methyl-2-(2-butyl)-thiazoline	83418-54-6	1762				2	EFSA
▼ <b>M3</b>								
15.134	2,5-Dihydroxy-1,4-dithiane	40018-26-6	550		Mixture of diastereoisomers: 25-30 % of (2S,5S and 2R,5R) and 70-75 % (2S,5R and 2R,5S)			EFSA
▼ <b>M5</b>								
15.135	Ethyl thialdine	54717-14-5			At least 90 %, secondary components less than 5 % 3,5- diethyl-1,2,4-trithiolane, less than 2 % thialdine, less than 3 % other impurities			EFSA
▼ <b>M1</b>								
16.001	Ammonium isovalerate	7563-33-9	1203	464				EFSA
16.002	Diammonium sulphide	12135-76-1		482				EFSA
16.006	N-Nonanoyl 4-hydroxy-3-methoxybenzylamide	2444-46-4	1599	590				EFSA
16.007	Hydrogen sulfide	7783-06-4	1658	647				EFSA
16.009	Ammonia	7664-41-7		739				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
16.012	Glycyrrhizic acid	1405-86-3		2221		In categories 1 and 3 – not more than 375 mg/kg  In category 5 – not more than 1 500 mg/kg  In category 5.3 – not more than 5 000 mg/kg  In category 7 – not more than 200 mg/kg  In category 8 – not more than 25 mg/kg  In category 9 – not more than 20 mg/kg  In category 14.1 – not more than 50 mg/kg  In category 14.2 – not more than 550 mg/kg		EFSA
16.013	N-Ethyl-2-isopropyl-5-methylcyclohexane carboxamide	39711-79-0	1601	2298				EFSA
16.015	Ethyl methylphenylglycidate	77-83-8	1577	6002				EFSA
▼ <b>M19</b> 16.016	Caffeine	58-08-2		11741		Restrictions for use as a flavouring substance:  In category 1 — not more than 70 mg/kg  In category 3 — not more than 70 mg/kg  In category 5 — not more than 100 mg/kg  In category 14.1 — not more than 150 mg/kg		EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
16.018	Ethyl 3-phenyl-2,3-epoxy-propionate	121-39-1	1576	11844				EFSA
16.027	Thiamine hydrochloride	67-03-8	1030	10493				EFSA
16.030	2-Methyl-4-propyl-1,3-oxathiane	67715-80-4	464	11540				JECFA
▼ <b>M19</b> 16.032	Theobromine	83-67-0				Restrictions for use as a flavouring substance:  In category 1 — not more than 70 mg/kg  In category 14.1 — not more than 100 mg/kg		EFSA
▼ <b>M1</b> 16.039	Potassium 2-(1'-ethoxy)ethoxypropanoate		933					EFSA
16.040	Ethyl 2,3-epoxy-3-methyl-3-p-tolylpropionate	74367-97-8	1578	11707				EFSA
16.041	Sodium 2-(4-methoxyphenoxy)propionate	13794-15-5	1029					EFSA
16.043	beta-Caryophyllene epoxide	1139-30-6	1575	10500			2	EFSA
16.048	Ammonium chloride	12125-02-9				In categories 1, 8, 9, and 15 – not more than 3 g/kg  In category 5 – <i>quantum satis</i>  In category 12 – not more than 3g/kg except for salt substitutes 40g/kg		EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						In category 14.2 – not more than 25 g/l		
16.052	1,6-Hexalactam	105-60-2	1594					EFSA
16.053	2-Isopropyl- trimethylbutanamide	N,2,3- 51115-67-4	1595	10459				EFSA
16.055	(R)-(+)-Sclareolide	564-20-5	1165					EFSA
16.056	Taurine	107-35-7	1435					EFSA
16.058	Naringin	10236-47-2		10286				EFSA
16.059	Ammonium sulphide	hydrogen 12124-99-1		482				EFSA
16.060	Glycyrrhizic acid, ammoniated	53956-04-0		2221		In category 1 – not more than 40 mg/kg In category 3 – not more than 90 mg/kg In category 5 – not more than 1 500 mg/kg In category 5.3 - not more than 5 000 mg/kg In category 6 – not more than 45 mg/kg In categories 7 and 13 – not more than 60 mg/kg In category 9 – not more than 300 mg/kg In category 11 – not more than 100 mg/kg		EFSA



▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
						In category 12 – not more than 50 mg/kg  In categories 14.1 and 14.2 – not more than 200 mg/kg  In category 15 – not more than 150 mg/kg		
16.061	Neohesperidin dihydrochalcone	20702-77-6				Restrictions for use as a flavouring substance:  In categories 1, 3, 4.2, 6, 8, 9, 10, 12 and 14 - not more than 3 mg/kg  In categories 2, 5 and 7 - not more than 4 mg/kg  In category 15 – not more than 5 mg/kg		EFSA
16.062	trans-2-Methyl-4-propyl-1,3-oxathiane	59324-17-3						EFSA
16.073	Sodium diacetate	126-96-5						EFSA
16.075	Ethyl vanillin beta-D-glucopyranoside	122397-96-0	892					EFSA
16.080	Tannic acid	72401-53-7		746				SCF/CoE
16.081	Sucrose octaacetate	126-14-7		11819				EFSA

▼ M16▼ M1

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
16.083	5,7-dihydroxy-2-(4-hydroxy-3-methoxyphenyl)-2,3-dihydro-4H-chromen-4-one sodium salt	462631-45-4						EFSA
16.087	Dianthramid B	579-93-1	1552					EFSA
16.088	l-Menthylmethylether	1565-76-0	1415					EFSA
16.089	Ferric ammonium citrate	1185-57-5						EFSA
▼ <b>M17</b>								
16.090	3-(3,4-Dimethoxyphenyl)-N-[2-(3,4-dimethoxyphenyl)ethyl]-acrylamide	69444-90-2	1777					EFSA
▼ <b>M1</b>								
16.091	Deca-(2E,4E)-dienoic acid isobutyl-amide	18836-52-7	1598				4	EFSA
16.092	(1R,2S,5R)-N,N-Dimethyl menthyl succinamide	544714-08-1	1602					EFSA
▼ <b>M6</b>								
▼ <b>M3</b>								
16.095	Cyclopropanecarboxamide, N-[(2E)-3,7-dimethyl-2,6-octadien-1-yl]-	744251-93-2	1779					EFSA
▼ <b>M1</b>								
16.096	Ferrous lactate	5905-52-2						EFSA
16.097	Hesperetin	520-33-2						EFSA

## ▼ M1

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
16.098	N-(1-Propylbutyl)-1,3-benzodioxole-5-carboxamide	745047-51-2	1767					EFSA
16.099	N-(2,4-Dimethoxy-benzyl)-N'-(2-pyridin-2-yl-ethyl)-oxalamide	745047-53-4	1768					EFSA
16.100	N1-(2-Methoxy-4-methyl-benzyl)-N2-(2-(5-methyl-pyridin-2-yl)ethyl)oxalamide	745047-94-3	1769					EFSA
16.101	N1-(2-Methoxy-4-methyl-benzyl)-N2-(2-(pyridin-2-yl)ethyl)oxalamide	745047-97-6	1770					EFSA
16.102	2,3,4,5,6-Pentahydroxy-N-(2-hydroxyethyl)-hexanamide	686298-93-1	1772					EFSA
16.103	Propanamide, 2-hydroxy-N-(2-hydroxyethyl)-.	5422-34-4	1774					EFSA
16.104	2-[(2-Hydroxypropanoyl)amino]ethyl dihydrogen phosphate	782498-03-7	1775					EFSA
16.105	(2R,3S,4S,5R)-2-[(2,3,4,5,6-Pentahydroxyhexanoyl)amino]ethyl dihydrogen phosphate	791807-20-0	1773					EFSA
16.107	2-Hydroxy-N-[2-(4-hydroxyphenyl)ethyl]-propionamide	781674-18-8						EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
16.109	3-(4-Hydroxyphenyl)-1-(2,4,6-trihydroxyphenyl)propan-1-one	60-82-2						EFSA
16.110	Naringin dihydrochalcone	18916-17-1						EFSA
▼ <b>M17</b>								
16.111	Glycine, N- [[[(1R,2S,5R)-5-methyl-2-(1-methylethyl)cyclohexyl]carbonyl]-, ethyl ester.	68489-14-5	1776					EFSA
▼ <b>M1</b>								
16.112	Trilobatin	4192-90-9						EFSA
16.113	Rebaudioside A	58543-16-1				Restrictions for use as a flavouring substance:  In categories 1, 3, 4.2, 5, 6, 12, 14.1 and 14.2 – not more than 10 mg/kg		EFSA
16.114	2-Pentyl-4-propyl-1,3-oxathiane	59323-81-8						EFSA
16.115	Cyclopropanecarboxylic acid (2-isopropyl-5-methylcyclohexyl)-amide	958660-02-1	2006				4	EFSA
16.116	4-Amino-5,6-dimethylthieno[2,3-d]pyrimidin-2(1H)-one	121746-18-7						EFSA
16.117	N-p-Benzeneacetonitrile-menthanecarboxamide	852379-28-3	2009				1	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
16.118	N-(2-(Pyridine-2-yl)ethyl)-3-p-menthancarboxamide	847565-09-7	2008				3	EFSA
16.119	N-(2-Methylcyclohexyl)-2,3,4,5,6-pentafluorobenzamide	1003050-32-5					4	EFSA
16.120	4-Amino-5,6-dimethylthieno[2,3-d]pyrimidin-2(1H)-one hydrochloride	1033366-59-4						EFSA
16.121	Spilanthol	25394-57-4			Mixture of isomers of (2E,6Z,8E)-N-(2-methylpropyl)-2,6,8-decatrienamide:  74% (2E,6Z,8E)-, 17% (2E,6E,8E)-, 6% (2E,6E,8Z)-, 1% (2Z,6Z,8E)-, 0.5% (2E,6E,8E)-, 1% (2Z,6Z,8Z)-isomer, 1.5% other isomers.		3	EFSA
16.122	4-Methyl, 2-propyl, 1-3-oxathiane	1064678-08-5						EFSA
▼ <b>M3</b>								
16.123	(1R,2S,5R)-N-(4-Methoxyphenyl)-5-methyl-2-(1-methylethyl)cyclohexanecarboxamide	68489-09-8						EFSA
▼ <b>M4</b>								
▼ <b>M1</b>								
16.125	(2S,5R)-N-[4-(2-amino-2-oxoethyl)phenyl]-5-methyl-2-(propan-2-yl)cyclohexanecarboxamide	1119711-29-3					1	EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
▼ <b>M10</b> 16.126	3-[(4-amino-2,2-dioxido-1H-2,1,3-benzothiadiazin-5-yl)oxy]-2,2-dimethyl-N-propylpropanamide	1093200-92-0	2082			Restrictions for use as a flavouring substance:  In category 1 — not more than 3 mg/kg. In category 3 — not more than 5 mg/kg. In category 5 — not more than 15 mg/kg. In category 5.3 — not more than 30 mg/kg. In category 5.4 — not more than 10 mg/kg. In category 6.3 — not more than 15 mg/kg. In category 7 — not more than 10 mg/kg. In category 12 — not more than 10 mg/kg. In category 14.1 — not more than 5 mg/kg.  In category 16, excluding products covered in categories 1, 3 and 4 — not more than 5 mg/kg.		EFSA
▼ <b>M1</b> 17.001	beta-Alanine	107-95-9	1418					EFSA
17.002	L-Alanine	56-41-7		11729				EFSA
17.003	L-Arginine	74-79-3	1438	11890				EFSA
17.005	Aspartic acid	56-84-8	1429	10078				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
17.006	L-Cystine	56-89-3		11747				EFSA
17.007	Glutamine	56-85-9	1430					EFSA
17.008	L-Histidine	71-00-1	1431					EFSA
17.010	D,L-Isoleucine	443-79-8	1422	10127				EFSA
17.012	L-Leucine	61-90-5	1423	10482				EFSA
17.013	D,L-Lysine	70-54-2		11947				EFSA
17.014	D,L-Methionine	59-51-8	1424	569				EFSA
▼ <b>M3</b>								
17.015	DL-Methylmethioninesulphonium chloride	3493-12-7	1427	761				EFSA
▼ <b>M1</b>								
17.017	D,L-Phenylalanine	150-30-1	1432	10488				EFSA
17.018	L-Phenylalanine	63-91-2	1428	10488				EFSA
17.019	L-Proline	147-85-3	1425	10490				EFSA
17.020	D,L-Serine	302-84-1						EFSA
17.021	D,L-Threonine	80-68-2						EFSA
17.022	L-Thyrosine	60-18-4	1434					EFSA
17.023	D,L-Valine	516-06-3	1426					EFSA
17.024	D,L-Alanine	302-72-7	1437	11729				EFSA
17.026	L-Lysine	56-87-1	1439	11947				EFSA

▼ **M1**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FL No.	Chemical Name	CAS No.	JECFA No.	CoE No.	Purity of the named substance at least 95% unless otherwise specified	Restrictions of Use	Footnote	Reference
17.027	L-Methionine	63-68-3						EFSA
17.028	L-Valine	72-18-4						EFSA
17.031	L-(+)-Lysine monohydrochloride	657-27-2		11947				EFSA
17.032	L-Cysteine hydrochloride	52-89-1		11746				EFSA
17.033	L-Cysteine	52-90-4	1419	10464				EFSA
17.034	Glycine	56-40-6	1421	11771				EFSA
17.035	4-Amino-butyric acid	56-12-2	1771					EFSA
17.036	S-allyl-L-cysteine	21593-77-1	1710					EFSA
17.037	L-Methionylglycine	14486-03-4					1	EFSA

▼ **M17**

17.038	gamma-Glutamyl-valyl-glycine	38837-70-6	2123		5-oxo-L-prolyl-L-valyl-glycine (PCA-Val-Gly) and L-alpha-glutamyl-L-valyl-glycine less than 0,7 %, L-gamma-glutamyl-L-valyl-L-valyl-glycine less than 2,0 %, Toluene not detectable (l.o.d. 10 mg/kg)	Restrictions for use as a flavouring substance:  In category 1 — not more than 50 mg/kg  In categories 2 and 5 — not more than 60 mg/kg  In category 6.3, breakfast cereals — not more than 160 mg/kg  In category 7.2 — not more than 60 mg/kg  In category 8 — not more than 45 mg/kg  In category 12 — not more than 160 mg/kg  In category 14.1 — not more than 15 mg/kg  In category 15 — not more than 160 mg/kg		EFSA
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▼ **M1**

PART B

**Flavouring preparations**

PART C

**Thermal process flavourings**

PART D

**Flavour precursors**

## ▼M1

## PART E

## Other flavourings

## ▼M18

FL no.	Name	CAS no.	JECFA No.	CoE No.	Purity of the named flavouring	Restrictions of use	Footnote	Reference
21.001	Pyroligneous distillate	—	—	—	<p>Complex mixture of substances, obtained by distillation of reaction products of pyroligneous acid and ethanol. Liquid with rum-like tasting odour and taste.</p> <p>Constituents:</p> <ul style="list-style-type: none"> <li>— Ethanol (determined by Gas Chromatography/Flame Ionization Detector): more than 40 % w/w)</li> <li>— Ethyl acetate: less than 25 % w/w)</li> <li>— Ethyl formate: less than 2 % w/w)</li> <li>— Ethyl propionate: less than 4 % w/w)</li> <li>— Ethyl butyrate: less than 1,5 % w/w)</li> <li>— Methyl acetate: less than 3,5 % w/w)</li> <li>— Furan equivalents (furan and 2 methyl furan) expressed as furan: less than 8 mg/l</li> <li>— Methanol and methanol derivatives, expressed as methanol equivalents: less than 2 % (w/w)</li> <li>— Benzopyrene: less than 1 µg/l</li> <li>— Benz(a)anthra-cene: less than 2 µg/l</li> <li>— acids (expressed as acetic acid): less than 1,00 g/l</li> </ul>	<p>In the following spirit drinks only:</p> <p><i>tuzemák</i> and <i>tuzemský</i> falling under Regulation (EC) No 110/2008 when marketed in the final package intended only for the final consumer, 3 800 mg/l.</p> <ol style="list-style-type: none"> <li>1. When reference is made in the labelling to the flavouring pyroligneous distillate [FL no: 21.001] in the spirit drinks <i>tuzemák</i> and <i>tuzemský</i>, the name or the FL number shall be used.</li> <li>2. <i>Tuzemák</i> and <i>tuzemský</i> to which pyroligneous distillate [FL no: 21.001] has been added shall not be used in the manufacture of other foodstuffs.</li> <li>3. In addition to the requirements of Article 15 of Regulation (EC) No 1334/2008, when this flavouring is marketed as such, it shall be indicated in the labelling that this flavouring may only be used for the manufacture of the spirit drinks <i>tuzemák</i> and <i>tuzemský</i>.</li> </ol> <p>Member States shall require additional labelling, informing consumers about the specific risks linked to the presence of pyroligneous distillate [FL no. 21.001] in the spirit drinks <i>tuzemák</i> and <i>tuzemský</i>.</p>		EFSA

▼ M1

PART F  
**Source materials**



## ANNEX II

## List of traditional food preparation processes

Chopping	Coating
Heating, cooking, baking, frying (up to 240 °C at atmospheric pressure) and pressure cooking (up to 120 °C)	Cooling
Cutting	Distillation/rectification
Drying	Emulsification
Evaporation	Extraction, incl. solvent extraction in accordance with Directive 88/344/EEC
Fermentation	Filtration
Grinding	
Infusion	Maceration
Microbiological processes	Mixing
Peeling	Percolation
Pressing	Refrigeration/Freezing
Roasting/Grilling	Squeezing
Steeping	

**▼ B***ANNEX III***Presence of certain substances**

Part A: *Substances which shall not be added as such to food*

Agaric acid

Aloin

Capsaicin

1,2-Benzopyrone, coumarin

Hypericine

Beta-asarone

1-Allyl-4-methoxybenzene, estragole

Hydrocyanic acid

Menthofuran

4-Allyl-1,2-dimethoxybenzene, methyleugenol

Pulegone

Quassin

1-Allyl-3,4-methylene dioxy benzene, safrole

Teucrin A

Thujone (alpha and beta)

Part B: *Maximum levels of certain substances, naturally present in flavourings and food ingredients with flavouring properties, in certain compound food as consumed to which flavourings and/or food ingredients with flavouring properties have been added*

Name of the substance	Compound food in which the presence of the substance is restricted	Maximum level mg/kg
Beta-asarone	Alcoholic beverages	1,0
1-Allyl-4-methoxybenzene, Estragol (*)	Dairy products	50
	Processed fruits, vegetables (incl. mushrooms, fungi, roots, tubers, pulses and legumes), nuts and seeds	50
	Fish products	50
	Non-alcoholic beverages	10
Hydrocyanic acid	Nougat, marzipan or its substitutes or similar products	50
	Canned stone fruits	5
	Alcoholic beverages	35
Menthofuran	Mint/peppermint containing confectionery, except micro breath freshening confectionery	500
	Micro breath freshening confectionery	3 000
	Chewing gum	1 000
	Mint/peppermint containing alcoholic beverages	200

▼B

Name of the substance	Compound food in which the presence of the substance is restricted	Maximum level mg/kg
4-Allyl-1,2-dimethoxybenzene, Methyleugenol (*)	Dairy products	20
	Meat preparations and meat products, including poultry and game	15
	Fish preparations and fish products	10
	Soups and sauces	60
	Ready-to-eat savouries	20
	Non-alcoholic beverages	1
Pulegone	Mint/peppermint containing confectionery, except micro breath freshening confectionery	250
	Micro breath freshening confectionery	2 000
	Chewing gum	350
	Mint/peppermint containing non-alcoholic beverages	20
	Mint/peppermint containing alcoholic beverages	100
Quassin	Non-alcoholic beverages	0,5
	Bakery wares	1
	Alcoholic beverages	1,5
1-Allyl-3,4-methylene dioxybenzene, safrole (*)	Meat preparations and meat products, including poultry and game	15
	Fish preparations and fish products	15
	Soups and sauces	25
	Non-alcoholic beverages	1
Teucrin A	Bitter-tasting spirit drinks or bitter <sup>(1)</sup>	5
	Liqueurs <sup>(2)</sup> with a bitter taste	5
	Other alcoholic beverages	2
Thujone (alpha and beta)	Alcoholic beverages, except those produced from Artemisia species	10
	Alcoholic beverages produced from Artemisia species	35
	Non-alcoholic beverages produced from Artemisia species	0,5
Coumarin	Traditional and/or seasonal bakery ware containing a reference to cinnamon in the labelling	50
	Breakfast cereals including muesli	20
	Fine bakery ware, with the exception of traditional and/or seasonal bakery ware containing a reference to cinnamon in the labelling	15
	Desserts	5

(\*) The maximum levels shall not apply where a compound food contains no added flavourings and the only food ingredients with flavouring properties which have been added are fresh, dried or frozen herbs and spices. After consultation with the Member States and the Authority, based on data made available by the Member States and on the newest scientific information, and taking into account the use of herbs and spices and natural flavouring preparations, the Commission, if appropriate, proposes amendments to this derogation.

<sup>(1)</sup> As defined in Annex II, paragraph 30 of Regulation (EC) No 110/2008.

<sup>(2)</sup> As defined in Annex II, paragraph 32 of Regulation (EC) No 110/2008.



*ANNEX IV*

**List of source materials to which restrictions apply for their use in the production of flavourings and food ingredients with flavouring properties**

Part A: *Source materials which shall not be used for the production of flavourings and food ingredients with flavouring properties*

Source material	
Latin name	Common name
Tetraploid form of <i>Acorus calamus</i> L.	Tetraploid form of Calamus

Part B: *Conditions of use for flavourings and food ingredients with flavouring properties produced from certain source materials*

Source material		Conditions of use
Latin name	Common name	
<i>Quassia amara</i> L. and <i>Picrasma excelsa</i> (Sw)	Quassia	Flavourings and food ingredients with flavouring properties produced from the source material may only be used for the production of beverages and bakery wares
<i>Laricifomes officinales</i> (Vill.: Fr) Kotl. et Pouz or <i>Fomes officinalis</i>	White agaric mushroom	Flavourings and food ingredients with flavouring properties produced from the source material may only be used for the production of alcoholic beverages
<i>Hypericum perforatum</i> L.	St John's wort	
<i>Teucrium chamaedrys</i> L.	Wall germander	

**▼B***ANNEX V***Conditions for the production of thermal process flavourings and maximum levels for certain substances in thermal process flavourings***Part A: Conditions for the production*

- (a) The temperature of the products during processing shall not exceed 180 °C.
- (b) The duration of the thermal processing shall not exceed 15 minutes at 180 °C with correspondingly longer times at lower temperatures, i.e. a doubling of the heating time for each decrease of temperature by 10 °C, up to a maximum of 12 hours.
- (c) The pH during processing should not exceed the value of 8,0.

*Part B: Maximum levels for certain substances*

Substance	Maximum levels µg/kg
2-amino-3,4,8-trimethylimidazo [4,5-f] quinoxaline (4,8-DiMeIQx)	50
2-amino-1-methyl-6-phenylimidazol [4,5-b]pyridine (PhIP)	50