CODEX ALIMENTARIUS COMMISSION





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Agenda Item 7

CRD29

JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON FOOD ADDITIVES

Fifty-First Session

PROPOSALS FOR ADDITIONS AND CHANGES TO THE PRIORITY LIST OF SUBSTANCES PROPOSED FOR EVALUATION BY JECFA

Provisional Agenda and Notes for the in-session working group

(CX/FA 19/51/13; CX/FA 19/51/2 Add. 1; CX/FA 19/51/3; CX/FA 19/51/4; CX/FA 19/51/4 add.1; CX/FA 19/51/6; CX/FA 19/51/7; CRDs 6, 17)

- I. Introductions
- II. Adoption of the agenda
- III. Notes:

Terms of reference

- Revised format of Priority List in accordance with the conclusions of REP18/FA paragraphs 156 and 160.
- 2. Revisions to the circular letter for Requests for information and comments on the priority list of substances proposed for evaluation by JECFA, in accordance with the conclusions of REP18/FA paragraph 161.
- IV. Working group recommendations to the 51st CCFA on proposals for additions and changes to the Priority List of Substances Proposed for Evaluation by JECFA
 - 1. Confirmation of requests and data availability for substances carried over from the Priority List agreed upon by the 50th CCFA.
 - New requests for the Priority List from agenda items 2 Add.1 (CX/FA 19/15/2 Add.1); 3(a) (CX/FA 19/51/3);3(b)(CX/FA 19/51/4, add.1 and add.2);4(b) CX/FA 19/51/6);5(a)(CX/FA 19/51/7) and 7 (CX/FA 19/51/13).

Notes on Agenda Items for the In-session Working Group on Proposals for the Priority List of Substances Proposed for Evaluation by JECFA

III. Notes:

- 1. Terms of reference
 - i. To consider and prepare recommendations for the Plenary on proposals for additions and changes to the Priority List of Substances Proposed for Evaluation by JECFA, in consideration of CX/FA 19/51/13 and matters referred in CX/FA 19/51/2 Add.1; CX/FA 19/51/3; CX/FA 19/51/4; CX/FA 19/51/4 add.1; CX/FA 19/51/4 add.2; CX/FA 19/51/6; CX/FA 19/51/7; and CRDs 6, 17);
 - ii. To consider and prepare recommendations for the Plenary on revisions to Annexes 2 and 4 of the circular letter for Requests for information and comments on the priority list of substances proposed for evaluation by JECFA.
- Revised format of Priority List in accordance with the conclusions of REP18/FA paragraphs 156 and 160.
 - i. For the list of food additives that are included in the GSFA, an indication of the priority of the request is made (see Annex 1, Table 1).
 - ii. A separate table has been prepared for all processing aid (enzyme) substances, which do not include any indication of priority (see Annex 1, Table 2).
- Revisions to the circular letter for Requests for information and comments on the priority list of substances proposed for evaluation by JECFA, in accordance with the conclusions of REP18/FA paragraph 161.
 - As presented in CRD 6, changes to the circular letter have been made to expand the questions in Annex 2 to better reflect the scope of the criteria outlines in Annex 1.
- IV. Working group recommendations to the 51st CCFA on proposals for additions and changes to the Priority List of Substances Proposed for Evaluation by JECFA are presented in Annex 1. Annex 2 lists the flavouring substances as presented in CX/FA 19/51/13. The tables in Annex 1 include the:
 - 1. Confirmation of requests and data availability for substances carried over from the Priority List agreed upon by the 50th CCFA and
 - 2. New requests for the Priority List, including: requests received in reply to CL 2018/28 (CX/FA 19/51/13); matters arising from the analysis of group ADIs by JECFA (CX/FA 19/51/2 Add. 1); matters of interest arising from the 86th meeting of JECFA (CX/FA 19/51/3);matters referred from the specifications for the identity and purity of food additives arising from the 86th JECFA meeting(CX/FA 19/51/4,CX/FA 19/51/4 add.1,CX/FA 19/51/4 add.2);the matters referred from the in-session working group on Alignment (CX/FA 19/51/6); and matters referred from the in-session working group on the GSFA (CX/FA 19/51/7).

Annex 1

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Priority List of Substances Proposed for Evaluation by JECFA

(Substances subject to JECFA's call for data for the 87th meeting of JECFA, and for which no further data are required, have been removed from the Priority List)

	TABLE 1 – LIST	OF SUBSTANCES USED AS FOOD ADDITIVES PRO	OPOSED FOR EVALUATION BY JECFA	
	Substance(s)	General information	Comments about the request	Priority*
1.	Anionic methacrylate	Type of request: Data pending to finalize safety	Basis for request: (see JECFA86 report or Table 1	2
	copolymer (AMC) (INS 1207)	evaluation	of CX/FA 19/51/3)	
		Proposed by: JECFA		
		Supported by: to be added	Additional data is required to clarify the in vivo	
		Year requested: 2019 (CCFA51)	carcinogenic potential of the residual monomer	
		Data availability: To be confirmed	methyl acrylate.	
		Data provider: To be confirmed		
			Possible issues for trade: currently unidentified	
2.	Azodicarbonamide (INS 927a)	Type of request: safety assessment	Basis for request: The Physical Working Group on	1
		Proposed by: CCFA 51	Alignment noted the safety concern on this food	
		Year requested: 2019 (CCFA51)	additive and request the re-evaluation of this food	
		Data availability: To be confirmed	additive.	
		Data provider: To be confirmed		
			Possible issues for trade: currently unidentified	
3.	Benzoic acid and its salts (INS	Type of request: Data pending – safety assessment	Basis for request: To confirm ICBA's commitment	1
	210-212)	Proposed by: CCFA49	to provide new toxicological evaluation of	
		Year requested: 2018 (CCFA50)	benzoates. The studies include extended one-	
		Data availability: December 2019	generational reproductive toxicity testing (EOGRT	
		Data provider:	Study, OECD 443) and findings relative to	
		International Council of Beverages Associations (ICBA)	benzoate's chemical-specific adjustment factor,	
		Ms. Katherine Loatman	default uncertainty factors and intake assessment	
		(Kate@icba-net.org)	assumptions.	
			Possible issues for trade: Identified: CCFA50	
			suggested extending the interim level of 250 ppm	
			(as benzoic acid) for the beverage category 14.1.4	
			to CCFA53.	
1.	Carob bean gum (INS 410)	Type of request: Data pending – toxicological data	Basis for request: Although no confirmation was	1
		from studies on neonatal animals, adequate to	provided for carob bean gum (INS 410), JECFA	
		evaluate the safety for use in infant formulas	indicated that there was ongoing discussion with	
		Proposed by: JECFA	industry and that the deadline for the submission	

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA			
	Substance(s)	General information	Comments about the request	Priority*
		Year requested: 2016 (CCFA48) Data availability: ongoing discussion with JECFA Data provider: ongoing discussion with JECFA	of data could be extended and therefore carob bean gum was retained on the JECFA priority list subject to confirmation of provision of data by CCFA50. Possible issues for trade: currently unidentified	
5.	Citric and fatty acid esters of glycerol (INS 472c)	Type of request: Data pending to designate specifications as FULL and amendments to the specification Proposed by: JECFA Supported by: to be added Year requested: 2019 (CCFA51) Data availability: December 2019 Data provider: To be confirmed	Basis for request: (see JECFA86 report or Annex 2 of CX/FA 19/51/4) To remove the tentative designation from the specifications, the following information is requested by December 2019: Validated analytical method to replace the obsolete packed column gas chromatographic method for the determination of total citric acid; Validated analytical method that eliminates the use of chloroform for the determination of total glycerol. Amendment to the specification based on the compositions/characteristics of the product commercially available Possible issues for trade: currently unidentified	2
6.	Dioctyl sodium sulfosuccinate(INS 480)	Type of request: Safety assessment Proposed by: CCFA51 Year requested: 2019 (CCFA51) Data availability: to be confirmed Data provider: to be confirmed	Basic for request: The Physical Working Group on GSFA discussed exposure to this food additive, some members noted that exposure of a small child could exceed the ADI. One observer noted that they had performed a budget calculation and that the calculation could be made available upon request. The WG agreed to request JECFA review the calculation, to be submitted by the observer, as well as other exposure information that maybe available. Possible issues for trade: currently unidentified	1

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA				
	Substance(s)	General information	Comments about the request	Priority*	
7.	Flavouring substances (45 new + 1 for re-evaluation + 14 for updates = 60 total) See Annex 2	Type of request: Safety assessment and establishment of specifications Proposed by: International Organization of the Flavor Industry (IOFI) Supported by: to be added Year requested: 2019 (CCFA51) Data availability: December 2019 Data provider: IOFI Sean V. Taylor, Ph.D. (staylor@vertosolutions.net)	Basis for request: Safety assessment or reassessment, and establishment of specifications or revision of specifications, as applicable Possible issues for trade: currently unidentified	Not applicable	
8.	Flavouring agents: (+)Carvone (no. 308.1) and (-)-Carvone (No. 380.2)	Type of request: Data pending to finalize exposure assessment Proposed by: JECFA Supported by: to be added Year requested: 2019 (CCFA51) Data availability: To be confirmed Data provider: To be confirmed	Basis for request: (see JECFA86 report or Table 2 of CX/FA 19/51/3) Additional data are required to complete the exposure assessment: • (+)-carvone: data on the oral exposure from all sources; • (-)-carvone: data on the oral exposure from all sources and toxicological data. Possible issues for trade: currently unidentified	Not applicable	
9.	Flavouring agents:(Ethyl 2-methyl pentanoate (No.214), cis-3-Hexen-1-ol (No.315), d-Carvone (No.380.1), l-Carvone (No.380.2), Menthol (No.427), l-Menthyl l-lactate (No.433), Myrcene (No.1327), Maltol (No.1480), 2-pentylfuran (No.1491), 3-(2-Furyl)acrolein (No.1497), 3-(5-Methyl-2-furyl)-butanal (No.1500), 2-Furyl methyl ketone (No.1503), 3-Acetyl-2,5-dimethylfuran (No.1506), (2-Furyl)-2-propanone	Type of request: revise the JECFA specifications Proposed by: CCFA 51 Year requested: 2019 (CCFA51) Data availability: To be confirmed Data provider: To be confirmed	Basis for request: (see CX/FA 19/51/4 add.2) Requests reconsideration of the specifications for 16 flavouring agents that considered at the 86th JECFA meeting (listed in either Annex 1 or Annex 2 of CX/FA 19/51/4)., because the reorganization some gaps between the JECFA specification (some items therein) and the commercially available products for each compound. Possible issues for trade: currently unidentified	Not applicable	

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA				
	Substance(s)	General information	Comments about the request	Priority*	
	(No.1508), 4-(2-furyl)-3- buten-2-one (No.1511), and Furfuryl methyl ether (No.1520))				
10.	Fulvic acid	Type of request: Safety assessment and establishment of specifications Proposed by: South Africa Year requested: 2019 (CCFA51) Data availability: already available Data provider: Fulvimed SA Stefan Coetzee (stefan@fulvimed.co.za)	Basis for request: Carbohydrate-Derived Fulvic Acid (CHD-FA®) is described as a novel, pure, biologically-active organic acids embedded in a supramolecular structure, free from heavy metals and safe for human and animal consumption. CHD- FA® liquid would be a suitable preservative for acidic foods such as jams, salad dressings, fruit and vegetable juices, pickles and carbonated drinks. Fulvate (CHD-FA® powder) would be a suitable preservative in dry products, such as cereals, maize, soup powders and meal replacements. Possible issues for trade: currently unidentified	2	
11.	Gellan gum (INS 418) (Pending confirmation of technological justification from CCNFSDU)	Type of request: Safety assessment for use in infant formula, formula for special medical purposes for infants, and follow-up formula Proposed by: United States of America Year requested: 2016 (CCFA48) - ongoing Data availability: December 2018 Data provider: Abbott Nutrition Mr. Paul Hanlon (paul.hanlon@abbott.com)	Basis for request: Gellan gum acts as a stabilizer in ready-to-feed infant formula, or concentrated liquid products to improve physical stability through mechanisms such as maintaining homogeneity or minimizing ingredient sedimentation. Gellan gum helps to keep minerals such as calcium and phosphorus in suspension and prevents physical separation of the product. Possible issues for trade: currently unidentified	1	
12.	Jagua (Genipin-Glycine) Blue	Type of request: Data pending to finalize safety evaluation and establishment of specifications – Evaluation by JECFA84 Proposed by: CCFA50 Year requested: 2018 (CCFA50) Data availability: To be confirmed by CCFA51 Data provider: To be confirmed by CCFA51	 Basis for request: (see JECFA84 report) Additional biochemical and toxicological data. Information of characterization of food additive is needed on: Characterization of the low molecular weight components of the "blue polymer"; A validated method for the determination of dimers; and Data on concentrations of dimers from five batches of the commercial products 	2	

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA			
	Substance(s)	General information	Comments about the request	Priority*
			Possible issues for trade: currently unidentified	
13.	Magnesium stearate (INS 470(iii))	Type of request: Amendment of JECFA monograph with regards to method of assay Proposed by: APAG – the European Oleochemicals & Allied Products group, a sector group of CEFIC Supported by: to be added Year requested: 2019 (CCFA51) Data availability: December 2019 Data provider: CEFIC -The European Chemical Industry Council Sofia Serafim (sse@cefic.be)	Basis for request: The method of assay for magnesium (an ICP-AES technique) referred to in the monograph for INS 470(iii), prepared by JECFA80, is considered inappropriate for determination of magnesium content and should be replaced by the titration method reported in the Food Chemical Codex monograph or other pharmacopoeia monographs. Possible issues for trade: currently unidentified	3
14.	Natamycin (INS 235)	Type of request: Re-evaluation of safety and revision of specifications Proposed by: Russian Federation Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Russian Federation Codex Contact Point (codex@gsen.ru)	Basis for request: The appropriateness of retaining natamycin in the GSFA should be re-evaluated, due to to emerging data on natamycin's role in: (i) promoting antimicrobial resistance, as well as speeding up virulence and pathogenic potential of food-borne human pathogens; and (ii) unbalancing the immunity and other bodily functions due to effects on gastrointestinal microflora. It is suggested that previous evaluations were specific to chemical toxicology and did not adequately take into account antimicrobial effects. Comments in opposition to the request note that the antimicrobial effects against a variety of Grampositive bacteria and their spores are important in maintaining product shelf-life and ensuring food safety. Possible issues for trade: currently unidentified	1
15.	Neutral methacrylate copolymer (NMC) (INS 1206)	Type of request: <u>Data pending</u> – suitable method of assay Proposed by: JECFA Supported by: to be added Year requested: 2019 (CCFA51)	Basis for request: (see JECFA86 report or Table 1 of CX/FA 19/51/3)	2

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA			
	Substance(s)	General information	Comments about the request	Priority*
		Data availability: To be confirmed Data provider: To be confirmed	A suitable validated method for its assay is required to remove the tentative status of the specifications developed by JECFA. Possible issues for trade: currently unidentified	
16.	Nisin (INS 234)	Type of request: Re-evaluation of safety and revision of specifications Proposed by: Russian Federation Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Russian Federation Codex Contact Point (codex@gsen.ru)	Basis for request: The appropriateness of retaining nisin in the GSFA should be re-evaluated, due to to emerging data on nisin role in: (i) promoting antimicrobial resistance, as well as speeding up virulence and pathogenic potential of food-borne human pathogens; and (ii) unbalancing the immunity and other bodily functions due to effects on gastrointestinal microflora. It is suggested that previous evaluations were specific to chemical toxicology and did not adequately take into account antimicrobial effects. Comments in opposition to the request note that the antimicrobial effects against a variety of Grampositive bacteria and their spores are important in maintaining product shelf-life and ensuring food safety.	1
17.	ortho-Phenylphenol (INS 231) and sodium ortho- phenylphenol (INS 232)	Type of request: Re-evaluation of ADI Proposed by: JECFA Supported by: to be added Year requested: 2019 (CCFA51) Data availability: To be confirmed Data provider: To be confirmed	Possible issues for trade: currently unidentified Basis for request: (see Appendix 1 of CX/FA 19/51/2 Add. 1) Analysis of all group food additives in the GSFA: The Codex Secretariat, in consultation with the JECFA Secretariats, undertake a review of all group food additives in the GSFA and prepare a more comprehensive document for consideration at CCFA51 including proposals on how to deal with the issue. It was noted that a re-evaluation of INS 231 and INS 232 may be needed as some studies indicate that the salt might be more toxic for human health than previously estimated.	1

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA				
	Substance(s)	General information	Comments about the request	Priority*	
			Possible issues for trade: currently unidentified		
18.	Polyglycerol esters of fatty acids(INS 475)	Type of request: Safety assessment Proposed by: CCFA51 Year requested: 2019 (CCFA51) Data availability: to be confirmed Data provider: to be confirmed	Basic for request: The Physical Working Group on GSFA of CCFA 51 noted that there may be new information available which could raise the ADI of this food additive, request for eventual re-evaluation and a potential increase in the ADI. Possible issues for trade: currently unidentified	1	
19.	Polyvinyl alcohol (INS 1203)	Type of request: Amendment of JECFA monograph with regards to solubility of polyvinyl alcohol Proposed by: European Union Year requested: 2019 (CCFA51) Data availability: already available Data provider: Ales Bartl Tel: 0032 2 645 1452 (abartl@jonesday.com)	Basis for request: This is to request a change of the JECFA monograph with regards to the solubility of polyvinyl alcohol (PVOH) in ethanol from "sparingly soluble in ethanol" to "practically insoluble or insoluble in ethanol". In 2011, a solubility testing for PVOH was carried out by Nippon and the test results were interpreted as PVOH being "practically insoluble or insoluble in ethanol".	3	
20.	Riboflavin from <i>Ashbya</i> gossypii	Type of request: Safety assessment and establishment of specifications Proposed by: EU Specialty Food Ingredients Supported by: to be added Year requested: 2019 (CCFA51) Data availability: December 2019 Data provider: BASF SE Nicola Leinwetter (nicola.leinwetter@basf.com)	Possible issues for trade: currently unidentified Basis for request: Alternative source of riboflavin for colouring purposes and as nutrient source Possible issues for trade: currently unidentified	2	
21.	Sorbitan monostearate (INS 491); Sorbitan tristearate (INS 492); Sorbitan monopalmitate (INS 495)	Type of request: Revision of specifications with regards to the congealing range identification method Proposed by: European Food Emulsifier Manufacturers' Association (EFEMA)	Basis for request: The congealing range identification method as reported in the JECFA monographs for INS 491, 492 and 495 is obsolete, difficult to work with due to	3	

	TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA			
	Substance(s)	General information	Comments about the request	Priority*
		Supported by: to be added Year requested: 2019 (CCFA51) Data availability: Immediately Data provider: EFEMA Caroline Rey (efema@ecco-eu.com)	poor reproducibility, and irrelevant. This identification parameter should be replaced by the identification test "acid value, iodine value, gas chromatography". Possible issues for trade: currently unidentified	
22.	Spirulina extract (INS 134)	Type of request: Data pending – analytical data Proposed by: JECFA Supported by: to be added Year requested: 2019 (CCFA51) Data availability: December 2019 Data provider: To be confirmed	 Basis for request: (see JECFA86 report or Table 1 of CX/FA 19/51/3) JECFA86 received limited analytical data on spirulina extract. To remove the tentative designation from the specifications, the following information on the products of commerce is requested by December 2019: Full compositional characterization of commercial products in both liquid and powder forms. Full compositional characterization of the aqueous extract before formulation/standardization. Validated analytical methods for identification of the substance with a suitable specificity (including validation data and representative batch data). Validated analytical methods for the determination of the purity of the substance with a suitable specificity (including validation data and representative batch data). Possible issues for trade: currently unidentified 	2
23.	Sucroglycerides(INS 474)	Type of request: safety evaluation Proposed by: CCFA 51 Year requested: 2019 (CCFA51) Data availability: To be confirmed Data provider: To be confirmed	Basis for request : During the discussion on the use of this food additive in FC 05.1.4, one member country concern that the proposed use would result in exposures which exceed the ADI, the	1

	TABLE 1 – LIST	OF SUBSTANCES USED AS FOOD ADDITIVES PRO	OPOSED FOR EVALUATION BY JECFA	
	Substance(s)	General information	Comments about the request	Priority*
			physical Working Group on GSFA of CCFA51 to request for exposure assessment.	
24.	Sucrose esters of fatty acids(INS 473)	Type of request: safety evaluation Proposed by: CCFA 51 Year requested: 2019 (CCFA51) Data availability: To be confirmed Data provider: To be confirmed	Possible issues for trade: currently unidentified Basis for request: During the discussion on the use of this food additive in FC 05.1.4, one member country concern that the proposed use would result in exposures which exceed the ADI, the physical Working Group on GSFA of CCFA51 to request for exposure assessment.	1
25.	Sucrose oligoesters ,type I and type II (INS 473a)	Type of request: safety evaluation Proposed by: CCFA 51 Year requested: 2019 (CCFA51) Data availability: To be confirmed Data provider: To be confirmed	Possible issues for trade: currently unidentified Basis for request: During the discussion on the use of this food additive in FC 05.1.4, one member country concern that the proposed use would result in exposures which exceed the ADI, the physical Working Group on GSFA of CCFA51 to request for exposure assessment. Possible issues for trade: currently unidentified	1
26.	Tannins (oenological tannins)	Type of request: Data pending to complete evaluation – Evaluation by JECFA84 Proposed by: CCFA50 Year requested: 2018 (CCFA50) Data availability: To be confirmed by CCFA51 Data provider: To be confirmed by CCFA51	 Basis for request: In order to complete its evaluation, JECFA requires information on: The following information is required: Composition of tannins derived from the full range of raw materials as well as the processes used in their manufacture; Validated analytical method(s) and relevant quality control data; Analytical data from five batches of each commercial product including information related to impurities such as gums, resinous substances, residual solvents, sulfur dioxide content and metallic impurities (arsenic, lead, iron, cadmium and mercury); Solubility of the products in commerce, according to JECFA terminology; and 	2

TABLE 1 – LIST OF SUBSTANCES USED AS FOOD ADDITIVES PROPOSED FOR EVALUATION BY JECFA			
Substance(s)	General information	Comments about the request	Priority*
		Use levels, natural occurrence and food products in which tannins are used.	
		Possible issues for trade: currently unidentified	

^{*} Priority ranking in accordance with REP18/FA, paragraph 156.

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA			
No	Substance(s)	General information	Comments about the request	
1.	5'-Deaminase from	Type of request: Safety assessment and establishment of specifications	Basis for request: The enzyme is used in the processing of	
	Streptomyces murinus	Proposed by: Japan	yeast and like products to promote the conversion of	
		Year requested: 2017 (CCFA49)	adenosine monophosphate (generally tasteless) to inosine	
		Data availability: December 2018	monophosphate ("umami" flavour), thereby enhancing	
		Data provider:	the flavour of the products.	
		Amano Enzyme Inc.		
		Mr. Tomonari Ogawa	Possible issues for trade: currently unidentified	
		(tomonari ogawa@amano-enzyme.com)		
2.	Acid prolyl endopeptidase	Type of request: Safety assessment and establishment of specifications	Basis for request : The enzyme is used in the processes of:	
	from Aspergillus niger	Proposed by: European Union	brewing beer to reduce the amount gluten/gliadins;	
	expressing a gene from	Year requested: 2016 (CCFA48)	potable alcohol production to optimize fermentation;	
	Aspergillus niger	Data availability: December 2018	protein processing to produce protein hydrolysates	
		Data provider:	without bitter flavour; starch processing to degrade	
		DSM Food Specialties	peptides which would negatively affect the production	
		Dr. Jack Reuvers	process and reduce the amount of gluten/gliadins.	
		(jack.reuvers@dsm.com)		
			Possible issues for trade: currently unidentified	
3.	Adenosine-5'-	Type of request: Safety assessment and establishment of specifications	Basis for request: AMP deaminase from Aspergillus oryzae	
	monophosphate	Proposed by: Japan	is intended for use during food and beverage processing to	
	deaminase from Aspergillus	Year requested: 2018 (CCFA50)	increase the content of 5'-monophosphate (5'-IMP) in	
	oryzae	Data availability: December 2018	food, beverages or food ingredients to impart or enhance	
		Data provider:	flavour.	
		Shin Nihon Chemical Co., Ltd.		

[†] Different rankings are assigned to individual requests for steviol glycosides, but JECFA may consider these requests as a group request.

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA				
No	Substance(s)	General information	Comments about the request		
		Dr. Ashley Roberts (ashley.roberts@intertek.com)	Possible issues for trade: currently unidentified		
4.	D-Allulose 3-epimerase from Arthrobacter globiformis expressed in Escherichi coli	Type of request: Safety assessment and establishment of specifications Proposed by: United States of America Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Matsutani Chemical Industry Co. Ltd. Mr. Yuma Tani (yuma-tani@matsutani.co.jp)	Basis for request: The enzyme is used in the production of D-allulose or ketose sugars from D-fructose. Possible issues for trade: currently unidentified NOTE: Confirmation of data was provided in response to CL 2018/28-FA.		
5.	Alpha-amylase from Bacillus licheniformis expressing a modified alpha-amylase gene from Geobacillus stearothermophilus	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Danisco US Inc Ms. Lisa Jensen (lisa.jensen@dupont.com)	Basis for request: The enzyme is a thermostable starch hydrolysing alpha-amylase, which quickly reduced viscosity of gelatinized starch, allowing for processing of materials with high solid levels. Possible issues for trade: currently unidentified		
6.	Alpha-amylase from Bacillus stearothermophilus expressed in Bacillus licheniformis	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2015 (CCFA47) Data availability: December 2018 Data provider: Novozymes A/S Tine Vitved Jensen (tvit@novozymes.com)	Basis for request: The enzyme is used for the hydrolysis of starch during the processing of starch-containing foods. Possible issues for trade: currently unidentified		
7.	Alpha-amylase from Rhizomucor pusillus expressed in Aspergillus niger	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2015 (CCFA47) Data availability: December 2018 Data provider: Novozymes A/S Tine Vitved Jensen (tvit@novozymes.com)	Basis for request: The enzyme is used for the hydrolysis of starch during the processing of starch-containing foods. Possible issues for trade: currently unidentified		
8.	Amyloglucosidase from Talaromyces emersonii	Type of request: Safety assessment and establishment of specifications Proposed by: European Union	Basis for request : The enzyme is used for the hydrolysis of starch during the processing of starch-containing foods.		

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA							
No	Substance(s)	General information	Comments about the request					
	expressed in Aspergillus niger	Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Novozymes A/S Mr. Peter Hvass (phva@novozymes.com)	Possible issues for trade: currently unidentified					
9.	Asparaginase from Aspergillus niger expressing a modified gene from Aspergillus niger	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2014 (CCFA46) Data availability: December 2018 Data provider: DSM Food Specialties Dr. Mariella Kuilman (mariella.kuilman@dsm.com)	Basis for request: The enzyme is used in cereal- and potato-based products to convert asparagine to aspartic acid, to reduce acrylamide formation during processing. Possible issues for trade: currently unidentified					
10.	Asparaginase from Pyrococcus furiosus expressed in Bacillus subtilis	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2015 (CCFA47) Data availability: December 2018 Data provider: Novozymes A/S Tine Vitved Jensen (tvit@novozymes.com)	Basis for request: The enzyme is indicated as a thermotolerant enzyme used to convert asparagine to aspartic acid to reduce acrylamide formation in the course of baking processes, cereal-based processes, fruit and vegetable processing, and coffee and cocoa processing. Possible issues for trade: currently unidentified					
11.	Beta-amylase from Bacillus flexus expressed in Bacillus licheniformis	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Novozymes A/S Mr. Peter Hvass (phva@novozymes.com)	Basis for request: The enzyme is used for the hydrolysis of starch during the processing of starch-containing foods. Possible issues for trade: currently unidentified					
12.	Beta-glucanase from Streptomyces violaceoruber expressed in S. violaceoruber	Type of request: Safety assessment and establishment of specifications Proposed by: Japan Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider:	Basis for request: The enzyme is used in the production of yeast extract products. It is indicated that by disrupting cell walls, an increased yield of yeast extract can be obtained, and bacterial contamination during manufacturing is reduced.					

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA							
No	Substance(s)	General information	Comments about the request					
		Nagase ChemteX Corporation Mr. Kensaku Uzura (kensaku.uzura@ncx.nagase.co.jp)	Possible issues for trade: currently unidentified					
13.	Collagenase from Streptomyces violaceoruber expressed in S. violaceoruber	Type of request: Safety assessment and establishment of specifications Proposed by: Japan Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Nagase ChemteX Corporation	Basis for request: The enzymes is used in meat and sausage casing processing to hydrolyze collagen, thereby reducing connective tissue toughness and improving meat tenderness. Possible issues for trade: currently unidentified					
		Mr. Kensaku Uzura (kensaku.uzura@ncx.nagase.co.jp)						
14.	Endo-1,4-ß-xylanase from Bacillus subtilis produced by B. subtilis LMG S-28356	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2016 (CCFA48) Data availability: December 2018	Basis for request : The enzyme catalyzes the conversion of arabinoxylan into arabinoxylan oligosaccharides, providing technological benefits in baking.					
		Data provider: Puratos NV Mr. Bas Verhagen (bverhagen@puratos.com)	Possible issues for trade: currently unidentified					
15.	Endo-1,4-ß-xylanase from Pseudoalteromonas haloplanktis produced by B. subtilis, strain LMG S-	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2017 (CCFA49) Data availability: December 2018	Basis for request : The enzyme catalyzes the conversion of arabinoxylan into arabinoxylan oligosaccharides, providing technological benefits in baking.					
	24584	Data provider: Puratos NV Mr. Bas Verhagen (bverhagen@puratos.com)	Possible issues for trade: currently unidentified					
16.	Endo-1,4-ß-xylanase from Thermotoga maritima produced by B. subtilis, strain LMG S-27588	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2017 (CCFA49) Data availability: December 2018	Basis for request : The enzyme catalyzes the conversion of arabinoxylan into arabinoxylan oligosaccharides, providing technological benefits in baking.					
		Data provider: Puratos NV Mr. Bas Verhagen (bverhagen@puratos.com)	Possible issues for trade: currently unidentified					

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA								
No	Substance(s)	General information	Comments about the request						
17.	Glucose oxidase from Penicillium chrysogenum expressed in Aspergillus niger	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2014 (CCFA46) Data availability: December 2018 Data provider: DSM Food Specialties Dr. Jack Reuvers (jack.reuvers@dsm.com)	Basis for request: The enzyme is used in baking, as it forms inter-protein bonds in dough, strengthening the dough and increasing its gas-retaining capacity and improving its handling properties. Possible issues for trade: currently unidentified						
18.	Inulinase from Aspergillus ficuum produced by Aspergillus oryzae, strain MUCL 44346	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Puratos NV Bas Verhagen (bverhagen@puratos.com)	Basis for request: The enzyme catalyzes the hydrolysis of inulin to produce fructo-oligosaccharides, theoretically from all food materials that naturally contain inulin. Possible issues for trade: currently unidentified						
19.	Lactase from Bifidobacterium bifidum expressed in Bacillus licheniformis	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Puratos NV Bas Verhagen (bverhagen@puratos.com)	Basis for request: The lactase enzyme preparation is used as a processing aid during food manufacture for hydrolysis of lactose during processing of milk and other lactose containing dairy products, e.g. in order to obtain lactose-reduced milk products for lactose-intolerant individuals as well as dairy products with better consistency and increased sweetness due hydrolysis of lactose to form glucose and galactose. Possible issues for trade: currently unidentified						
20.	Lipase from Aspergillus oryzae expressing a modified gene from Thermomyces lanuginosus	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Puratos NV Bas Verhagen (bverhagen@puratos.com)	Basis for request: The enzyme is used as a processing aid during food manufacture for hydrolysis of lipids during processing of lipid-containing foods, e.g., in order to improve dough strength and stability in baking and other cereal based processes. Possible issues for trade: currently unidentified						

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA							
No	Substance(s)	General information	Comments about the request					
21.	Lipase from Mucor javanicus	Type of request: Safety assessment and establishment of specifications Proposed by: Japan Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Amano Enzyme Inc. Mr. Tomonari Ogawa (tomonari ogawa@amano-enzyme.com)	Basis for request: The enzyme catalyzes the hydrolysis of mono-, di- and triglycerides containing short-, medium-, and long-chain fatty acid moieties, providing various sensory benefits in processed dairy products, processed baking products, and processed egg products. Possible issues for trade: currently unidentified					
22.	Phosphatidyl inositol- specific phospholipase C from a genetically modified strain of <i>Pseudomonas</i> fluorescens	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: DSM Food Specialties Dr. Mariella Kuilman (mariella.kuilman@dsm.com)	Basis for request: The enzyme hydrolyzes phosphatidylinositol present in vegetable oil, thereby reducing its concentration. PI negatively impacts taste, colour, and stability of vegetable oil, while the hydrolytic products do not. Possible issues for trade: currently unidentified					
23.	Phosphodiesterase from Penicillium citrinum	Type of request: Safety assessment and establishment of specifications Proposed by: Japan Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Amano Enzyme Inc. Mr. Tomonari Ogawa (tomonari ogawa@amano-enzyme.com)	Basis for request: The enzyme is used in processing yeast products by hydrolysing RNA, thereby increasing ribonucleotide levels and improving umami flavour. Possible issues for trade: currently unidentified					
24.	Phospholipase A2 from pig pancreas expressed in Aspergillus niger	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2014 (CCFA46) Data availability: December 2018 Data provider: DSM Food Specialties Dr. Mariella Kuilman (mariella.kuilman@dsm.com)	Basis for request: The enzyme hydrolyzes natural phospholipids present in foodstuffs resulting in the formation of lyso-phospholipids that have emulsifying properties. This may be of benefit in baking and in egg processing for superior emulsifying properties (e.g. useful in dressings, spreads, sauces). In addition, the enzyme preparation is used during degumming of vegetable oils, where phospholipids can be separated more effectively from the oil. Possible issues for trade: currently unidentified					

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA								
No	Substance(s)	General information	Comments about the request						
25.	Phospholipase A2 from Streptomyces violaceoruber expressed in S. violaceoruber	Type of request: Safety assessment and establishment of specifications Proposed by: Japan Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Nagase ChemteX Corporation Mr. Kensaku Uzura (kensaku.uzura@ncx.nagase.co.jp)	Basis for request: The enzyme preparation helps to improve emulsification properties of modified lipids increasing yield and texture of the final food in dairy and bakery. The enzyme preparation can also be used for degumming of vegetable oil. In general, the phospholipase A2 does not exert any enzymatic activity in the final food. Possible issues for trade: currently unidentified						
26.	Protease Aqualysin 1 from Thermus aquaticus produced by B. subtilis, strain LMGS 25520	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2017 (CCFA49) Data availability: December 2018 Data provider: Puratos NV Bas Verhagen (bverhagen@puratos.com)	Basis for request: The enzyme preparation is used as a processing aid during production of bakery products. The food enzyme catalyses hydrolyzes of the peptide bonds. The addition of enzyme provides several benefits during the production of bakery products: - Faster dough development upon mixing; - Better dough machinability; - Reduced dough rigidness; - Improved dough's structure and extensibility during the shaping or moulding step; - Uniform shape of the bakery product; - Regular batter viscosity, and - Improved short-bite of certain products like hamburger breads Possible issues for trade: currently unidentified						
27.	Transglucosidase/alpha- glucosidase from Trichoderma reesei expressing an Alpha- glucosidase gene from Aspergillus niger	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2016 (CCFA48) Data availability: December 2018 Data provider: Danisco US Inc Dr. Vincent J. Sewalt (vincent.sewalt@dupont.com)	Basis for request: The food enzyme catalyzes both hydrolytic and transfer reactions on incubation with α -D-gluco-oligosaccharides. In molasses, non-fermentable sugars including raffinose and stachyose are converted to sucrose, galactose, glucose and fructose, which can then be fermented into alcohol. The enzyme preparation is intended for use in the production of isomalto-oligosaccharides and in the manufacture of potable alcohol, lysine, lactic acid and MSG.						

	TABLE 2 – LIST OF SUBSTANCES USED AS PROCESSING AIDS PROPOSED FOR EVALUATION BY JECFA							
No	Substance(s)	General information	Comments about the request					
			Possible issues for trade: currently unidentified					
28.	Xylanase from <i>Bacillus licheniformis</i> expressed in <i>B. licheniformis</i>	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2015 (CCFA47) Data availability: December 2018 Data provider: Novozymes A/S Tine Vitved Jensen (tvit@novozymes.com)	Basis for request: The enzyme catalyzes the endohydrolysis of 1,4-beta-D-xylosidic linkages in xylans, including arabinoxylans in various plant materials including the cell walls and endosperm of cereals, such as wheat, barley, oats and malt. It is used in baking processes and other cereal based processes where it improves characteristics and handling of the dough.					
29.	Xylanase from <i>Talaromyces</i> emersonii expressed in Aspergillus niger	Type of request: Safety assessment and establishment of specifications Proposed by: European Union Year requested: 2014 (CCFA46) Data availability: December 2018 Data provider: DSM Food Specialties Dr. Jack Reuvers (jack.reuvers@dsm.com)	Possible issues for trade: currently unidentified Basis for request: The enzyme is used in brewing processes to hydrolyze arabinoxylans in cereal cell walls, to reduce wort viscosity and improve filtration. The enzyme is also used in baking processes to improve dough characteristics and handling. Possible issues for trade: currently unidentified					

Annex 2

Priority list of 46 flavours proposed for inclusion on the JECFA Priority List to be considered at the 51st session of the Codex Committee on Food Additives

CCFA Listing History	FEM	JECFA	CAS	Principle Name	Group	TRS	
	A No	No No			No	No	
	SIMPLI	SIMPLE ALIPHATIC AND AROMATIC SULFIDES AND THIOLS				TRS 896 TRS 922 TRS 947 TRS 960 TRS 974	
Submitted at CCFA51	4730		1241905-19-0	O-Ethyl S-1-methoxyhexan-3-yl carbonothioate			
Submitted at CCFA51	4733		1006684-20-3	(±)-2-Mercaptoheptan-4-ol			
Submitted at CCFA51	4734		1256932-15-6	3-(Methylthio)-decanal			
Submitted at CCFA51	4760		53626-94-1	Prenyl thioisobutyrate			
Submitted at CCFA51	4761		75631-91-3	Prenyl thioisovalerate			
Submitted at CCFA51	4769		851768-51-9	5-Mercapto-5-methyl-3-hexanone			
Submitted at CCFA51			1416051-88-1	(±)-2-Mercapto-5-methylheptan-4-one			
Submitted at CCFA51	4782		1679-06-7; 1633-90-5	2(3)-Hexanethiol			
Submitted at CCFA51	4791		22236-44-8	3-(Acetylthio)hexanal			
Submitted at CCFA51	4792		548740-99-4	(±)-3-Mercapto-1-pentanol			
Submitted at CCFA51	4817		38634-59-2	S-[(methylthio)methyl]thioacetate			
Submitted at CCFA51	4822		61407-00-9	2,6-Dipropyl-5,6-dihydro-2 <i>H</i> -thiopyran-3-carboxaldehyde			
Submitted at CCFA51	4823		33368-82-0	1-Propenyl 2-propenyl disulfide			
Submitted at CCFA51	4824		1658479-63-0	2-(5-Isopropyl-2-methyl-tetrahydrothiophen-2-yl)-ethyl acetate			
Submitted at CCFA51	4828		729602-98-6	1,1-Propanedithioacetate			
Submitted at CCFA51	4836		137363-86-1	10% solution of 3,4-dimethyl-2,3-dihydrothiophene-2-thiol			
Submitted at CCFA51	4842		911212-28-7	2,4,5-Trithiaoctane			
Submitted at CCFA51	4843		1838169-65-5	3-(Allyldithio) butan-2-one			
Submitted at CCFA51	4870		17564-27-1	2-Ethyl-4-methyl-1,3-dithiolane			
PHENOL AND PHENOL DERIVATIVES							
				TRS 974			

CCFA Listing History	·		Group	TRS		
	A No	No			No	No
Submitted at CCFA51	4228		462631-45-4	(-)-Homoeriodictyol, sodium salt		
Submitted at CCFA51	4797		480-41-1	(±)-Naringenin		
Submitted at CCFA51	4799		1449417-52-0	(2R)-3',5-Dihydroxy-4'-methoxyflavanone		
Submitted at CCFA51	4830		38183-03-8	7,8-Dihydroxyflavone		
Submitted at CCFA51	4833		87733-81-1	(2S)-3',7-Dihydroxy-8-methyl-4'-methoxyflavan		
Submitted at CCFA51	4834		1796034-68-2	(R)-5-hydroxy-4-(4'-hydroxy-3'-methoxyphenyl)-7-		
Submitted at CCFAS1	4654		1790034-06-2	methylchroman-2-one		
Submitted at CCFA51	4872		35400-60-3	3-(3-Hydroxy-4-methoxy-phenyl)-1-(2,4,6-		
Submitted at CCFA51	48/2		35400-00-3	trihydroxyphenyl)propan-1-one		
	HYDRO	DXY- AND	ALKOXY-SUBSTI	TUTED BENZYL DERIVATIVES	J29	TRS 909 TRS 952
Submitted at CCFA51	4430		99-50-3	3,4-Dihydroxybenzoic acid		113 932
Submitted at CCFA51	4431		99-06-9	3-Hydroxybenzoic acid		
Submitted at CCFA51	4435		673-22-3	2-Hydroxy-4-methoxybenzaldehyde		
Submitted at CCFA51	4606		930587-76-1	4-Formyl-2-methoxyphenyl 2-hydroxypropanoate		
Submitted at CCFA51	4622		61683-99-6	Piperonal propyleneglycol acetal		
Submitted at CCFA51	4627		6414-32-0	Anisaldehyde propyleneglycol acetal		
Submitted at CCFA51	4700		614-60-8	o-trans-Coumaric acid		
Submitted at CCFA51	4750		65405-77-8	cis-3-Hexenyl salicylate		
Submitted at CCFA51	4810		60563-13-5	Ethyl-2-(4-hydroxy-3-methoxy-phenyl)acetate		
Submitted at CCFA51	4826		10525-99-8	3-Phenylpropyl 2-(4-hydroxy-3-methoxy-phenyl)acetate		
Submitted at CCFA51	4871		1962956-83-7	2-Phenoxyethyl 2-(4-hydroxy-3-methoxyphenyl)acetate		
	ALICYC	CLIC KETO	NES, SECONDAR	Y ALCOHOLS AND RELATED ESTERS	J36	TRS 913 TRS 960
Submitted at CCFA51	4724		21862-63-5	trans-4-tert-Butylcyclohexanol		
Submitted at CCFA51	4780		38284-26-3	Caryophylla-3(4),8-dien-5-ol		
	AMINO	O ACIDS A	ND RELATED SU	BSTANCES	J49	TRS 928 TRS 974
Submitted at CCFA51	4223		107-43-7	Betaine		
Submitted at CCFA51	4738		16869-42-4	Glutamyl-2-aminobutyric acid		
Submitted at CCFA51	4739		38837-71-7	Glutamyl-norvalyl-glycine		
Submitted at CCFA51	4740		71133-09-0	Glutamyl-norvaline		
Submitted at CCFA51	4752		1188-37-0	N-Acetyl glutamate		

CCFA Listing History FEM JECFA CAS		CAS	Principle Name		TRS	
	A No	No			No	No
Submitted at CCFA51	4781		18598-63-5	L-Cysteine methyl ester hydrochloride		

CCFA Listing	FEMA	JECFA	CAS	Principle Name	Grou	TRS
History	No	No			p No	No
						TRS
	ALICYCL	C DDIMAI	DV ALCOHOLS AL	LDEHYDES, ACIDS AND RELATED ESTERS (RE-EVALUATION)	J32	TRS
	ALICYCL	IC PRIIVIAI	NI ALCOHOLS, A	LDEHTDES, ACIDS AND RELATED ESTERS (RE-EVALUATION)	J32	960
						TRS
						1009
Old	3557	973	2111-75-3	p-Mentha-1,8-dien-7-al (Perillaldehyde)		·

Priority list of 14 compounds proposed for specifications modification by JECFA Priority List to be considered at the 51st session of the Codex Committee on Food Additives

History	FEMA No	JECFA No	CAS	Principle Name	Most recent Specification Evaluation	Status	Update
Old	4050	2002	774-64-1	3,4-Dimethyl-5-pentylidene- 2(5H)-furanone	73 rd JECFA	Full	Secondary components
Old	4085	1575	1139-30-6	beta-Caryophyllene oxide	65 th JECFA	Full	Updated isomeric composition
Old	4249	1604	99583-29-6	2-Acetylpyrroline	65 th JECFA		Updated assay value, CAS number and secondary components
Old	4668	1/11//		(2E,6E/Z,8E)-N-(2- Methylpropyl)-2,6,8- decatrienamide	76 th JECFA	Full	Updated isomeric mixture
Old	3352	1125	2497-21-4	4-Hexen-3-one	59 th JECFA	II- I III	Updated assay value and isomeric composition
Old	2249	380.1	2244-16-8	d-Carvone	86 th JECFA	Tentative	Updated refractive index
Old	3317	1491	3777-69-3	2-Pentylfuran	86 th JECFA	II— I III	Updated specific gravity range and assay value
Old	2494	1497	623-30-3	3-(2-Furyl)acrolein	86 th JECFA	Full	Updated melting point range
Old	3586	1502	65545-81-5	2-Phenyl-3-(2-furyl)prop-2-enal	86 th JECFA		UpddatedAssay value and physical and odor descriptions

Old	3609	1504	1193-79-9	2-Acetyl-5-methylfuran	86 th JECFA	Full	Updated Physical appearance description; specific gravity
Old	3391	1506	10599-70-9	3-Acetyl-2,5-dimethylfuran	86 th JECFA	Full	Updated Specific gravity range
Old	2495	1511	623-15-4	4-(2-Furyl)-3-buten-2-one	86 th JECFA	Full	Updated Physical appearance and melting point range
Old	2435	1513	10031-90-0	Ethyl 3-(2-furyl)propanoate	86 th JECFA	Full	Updated Physical form, refractive index and specific gravity
Old	2865	1517	7149-32-8	Phenethyl 2-furoate	86 th JECFA	Full	Updated Refractive index and specific gravity ranges; physical appearance