Food and Agriculture Organization of the United Nations

World Health Organization

JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES
Fifty-ninth meeting
(Food additives and contaminants)

Geneva, 4-13 June 2002

LIST OF SUBSTANCES SCHEDULED FOR EVALUATION AND REQUEST FOR DATA

Attached is the list of substances (Annex 1) scheduled for evaluation or re-evaluation at the fifty-ninth meeting of the Joint FAO/WHO Expert Committee on Food Additives (JECFA). This list has been prepared by the Joint FAO/WHO Secretariat of the Committee and is based on recommendations of the Codex Committee on Food Additives and Contaminants (CCFAC), previous Expert Committees, and direct requests from governments, other interested organizations, and producers of substances that have been evaluated previously.

Submission of data

Annex 1 lists the food additives and contaminants to be considered at the meeting. Governments, interested organizations, producers of these chemicals, and individuals are invited to submit data for the toxicological evaluations, for the preparation of specifications for the identity and purity and for estimating the intake of the food additives that are listed and toxicological, chemical, and intake data for the contaminants that are listed. The submitted data may be published or unpublished and should contain detailed reports of laboratory studies, including individual animal data. Reference to relevant published studies should also be provided, where applicable. Summaries in the form of monographs are helpful, but they are not in themselves sufficient for evaluation.

Unpublished confidential studies that are submitted will be safeguarded and will be used only for evaluation purposes by JECFA. Summaries of the studies will be published by FAO and WHO after the meetings in the form of specifications and toxicological monographs.

Neither FAO nor WHO have facilities for long-term storage. The submitted data will either be returned to the submitter at his expense or destroyed after the evaluations have been completed. It would be helpful if the preferred procedure for data disposal is indicated at the time of submission. If no reference is made to disposal, the data will be destroyed.

The secretariats of JECFA at FAO and WHO encourage electronic submissions. Such data should be presented preferably using standard word processing or document formats, and should be submitted using disks or CD-ROM. In particular, the Secretariat encourages the submission of food contaminant data according to the protocol provided by GEMS/Food.[1]

Date for submission

The submission of data on those compounds listed in Annex 1 is requested before **30 November 2001**. *Note:* based on considerations at the fifty-seventh meeting this deadline applies to all data **including those for specifications for food additives and flavouring agents**.

Toxicological data

Data relevant to the toxicological evaluations of the substances on the agenda including the results of studies:

1. metabolism and pharmacokinetic studies;
2. short-term toxicity, long-term toxicity/carcinogenicity, reproductive toxicity, and developmental toxicity studies in animals and genotoxicity studies;
3. epidemiological studies; and
4. special studies designed to investigate specific effects, such as the mechanism of toxicity, immune responses, or macromolecular binding

should be sent in duplicate (at least one in paper) to:

International Programme on Chemical Safety
Attention: Dr. J.L. Herrman
World Health Organization
Avenue Appia
1211 Geneva 27
Switzerland
Facsimile: (+41 (0)22)791 4848
Telephone: (+41 (0)22)791 3569
E-mail: herrmanj@who.int

If the data are voluminous, please contact Dr Herrman in advance of the submission of data to determine where the second copy should be sent.

Technological data

Data relevant to the manufacturing, quality, use, occurrence, identification and quantification of the substances on the agenda including:

1. specifications for the identity and purity of the listed food additives (specifications applied during development and toxicological studies; proposed specifications for commerce);
2. technological and nutritional considerations relating to the manufacture and use of the listed food additives;
3. levels of the listed food additives found in food or expected to be in food based on technological function and the range of foods in which they are used;
4. levels and patterns of contamination in food commodities of the listed contaminants;
5. analytical techniques for identifying and quantifying the listed substances;
6. sampling protocols for the listed contaminants;

[1] *Instructions for the electronic submission of data on chemical contaminants in food*. GEMS/Food Programme (WHO/SDE/PHE/FOS/00.2 - available at http://www.who.int/fsf/Chemicalcontaminants/index2.htm), WHO, Geneva, 2000.

7. effects of processing on levels of the listed contaminants in food as consumed, and
8. methods available for the prevention and control of the listed contaminants

should be sent in duplicate to:

Food and Nutrition Division
Attention: Dr Manfred Luetzow
Food and Agriculture Organization of the United Nations
Via delle Terme di Caracalla
00100 Rome
Italy
Facsimile: (+39) 06 5705 4593 or 06 5705 3152
Telephone: (+39) 06 5705 5425
E-mail: manfred.luetzow@fao.org

The technological information for food additives is summarized by the Committee in technical data sheets. Guidelines for the preparation of data sheets are provided in Annex 2. Applicants are encouraged to consider those when preparing their submission.

Intake assessment data

All data relevant to

1. food consumption;
2. levels and patterns of contamination in food commodities of the listed contaminants; and
3. effects of processing on levels of the listed contaminants in food as consumed

should be sent in duplicate to the attention of Dr Luetzow at FAO and in duplicate to:

Food Safety Programme
Attention: Dr G. Moy
World Health Organization
Avenue Appia
1211 Geneva 27
Switzerland
Facsimile: (+41 (0)22)791 4807
Telephone: (+41 (0)22)791 3698
E-mail: moyg@who.int

Presentation of data

Please note that the above lists are not meant to be all-inclusive since it is recognized that other studies may, in some instances, assist in the evaluation.

Procedures for the evaluation of food additives and contaminants were published by WHO in 1987 (*Principles for the Safety Assessment of Food Additives and Contaminants in Food* - Environmental Health Criteria No. 70, which is available on-line at http://www.who.int/pcs/jecfa/ehc70.html). All relevant data, both positive and negative, should be submitted. Data should be presented, summarized and referenced in a clear and concise manner.

This call for data is available at both the FAO and WHO web sites:

http://www.fao.org/es/esn/jecfa/jecfa.htm

http://www.who.int/pcs

ANNEX 1
JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES (JECFA)
Fifty-ninth meeting, Geneva, 4-13 June 2002

LIST OF SUBSTANCES SCHEDULED FOR EVALUATION OR RE-EVALUATION

General information: The monographs published in the WHO Food Additives Series that are referenced below are available on-line at http://www.inchem.org/contents.html. The referenced specifications are available from the on-line edition at http://www.fao.org/es/esn/jecfa/jecfa.htm. WHO procedural guidelines and guidelines for the preparation of toxicological working papers, guidelines for the preparation of working papers on contaminants and the intake of food additives, and the working paper format for flavouring agents are available at http://www.who.int/pcs. Appendix B of the guidelines for the preparation of working papers on the intake of food additives provides guidance to countries submitting their national assessments of intake.

1. Food additives recommended for toxicological and/or intake re-evaluation at previous sessions of the Joint FAO/WHO Expert Committee on Food Additives or by the Codex Committee on Food Additives and Contaminants (CCFAC)

Substance	Reference	Information required[2]
Alitame	Forty-fourth[3] and forty-sixth[4] reports, FAS 35[5] and 37[6], and FNP 52/4[7]	The results of a study of tolerance to repeated doses of alitame in diabetic subjects and any new information on intake and specifications.
Annatto extracts	Twenty-sixth[8] and fifty-third[9] reports and FAS 17[10]	All relevant information relating to toxicity and exposure assessment
Curcumin	Forty-fourth[2] and fifty-first[11] reports, FAS 35[4], and FNP 52/6[12]	The results of a reproductive toxicity study on a substance complying with the specification for curcumin

[2] Previous reports and monographs should be consulted to obtain background information on the previous evaluations.
[3] *Evaluation of certain food additives and contaminants.* Forty-fourth report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 859, 1995.
[4] *Evaluation of certain food additives and contaminants*. Forty-sixth report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 868, 1997.
[5] *Toxicological evaluation of certain food additives and contaminants*. WHO Food Additives Series, No. 35, 1996.
[6] *Toxicological evaluation of certain food additives and contaminants*. WHO Food Additives Series, No. 37, 1996.
[7] *Compendium of food additive specifications, addendum 4*. FAO Food and Nutrition Paper, No. 52, Add. 4, 1996.
[8] *Evaluation of certain food additives and contaminants*. Twenty-sixth report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 683, 1982.
[9] *Evaluation of certain food additives and contaminants.* Fifty-third report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 896, 2000.
[10] *Toxicological evaluation of certain food additives*. WHO Food Additives Series, No. 17, 1982.
[11] *Evaluation of certain food additives*. Fifty-first report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 891, 2000.
[12] *Compendium of food additive specifications, addendum 6*. FAO Food and Nutrition Paper, No. 52, Add. 6, 1998.

Substance	Reference	Information required[2]
Mineral oils (medium- and low-viscosity)	Forty-fourth[2] and fifty-first[11] reports, FAS 35[4], and FNP 52/6[12]	Information about the compositional factors in mineral oils that influence their absorption and toxicity and a study of at least 1 year's duration of one of these materials in F344 rats, including an assessment of immune function at appropriate time periods (with a reversal period of 1 year) and an investigation of the kinetics of accumulation of the material, and particularly whether a plateau is reached. In addition, research on the pharmacokinetics of white mineral oils and their potential effects on immune function that were known to be in progress at the time of the previous evaluation should be submitted.
Nitrate	Forty-fourth[2] report and FAS 35[4]	Results of studies in humans exposed to nitrate from different sources (vegetables and drinking-water), including the toxicokinetics and relevant toxicodynamic parameters such as thyroid function and adrenal cortex function.
Salatrim	Forty-ninth[13] report, FAS 40[14], and FNP 52/5[15]	Reports of studies designed to assess the safety and nutritional consequences of ingestion of salatrim.

2. Food additive not previously evaluated by JECFA that has been recommended for priority attention by CCFAC

Substance	Information required
Cross-linked sodium carboxymethyl cellulose	All available relevant information relating to toxicity, specifications and intake

3. Substances to be evaluated using the Procedure for the Safety Evaluation of Flavouring Agents.
All available relevant information relating to toxicity, metabolism, specifications, and intake is required.

Chemical name	JECFA number	CAS number	FEMA number
Group 1: Alicyclic primary alcohols, aldehydes, acids and related esters			
Cyclohexanecarboxylic acid	961	98-89-5	3531
Methyl cyclohexanecarboxylate	962	4630-82-4	3568
Ethyl cyclohexanecarboxylate	963	3289-28-9	3544
Cyclohexaneethyl acetate	964	5452-75-5	2348
Cyclohexaneacetic acid	965	5292-21-7	2347
Ethyl cyclohexanepropionate	966	10094-36-7	2431
2,2,3-Trimethylcyclo-pent-3-en-1-ylacetaldehyde	967	4501-58-0	3592
cis-5-Isopropenyl-cis-2-methylcyclopentan-1-carboxaldehyde	968	55253-28-6	3645
Campholene acetate	969	36789-59-0	3657
a-Campholenic alcohol	970	1901-38-8	3741
p-Menth-1-en-9-al	971	29548-14-9	3178

[13] *Evaluation of certain food additives and contaminants*. Forty-ninth report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 884, 1999.
[14] *Safety evaluation of certain food additives and contaminants*. WHO Food Additives Series, No. 40, 1998.
[15] *Compendium of food additive specifications, addendum 5*. FAO Food and Nutrition Paper, No. 52, Add. 5, 1997.

Chemical name	JECFA number	CAS number	FEMA number
Group 1: Alicyclic primary alcohols, aldehydes, acids and related esters			
1-p-Menthen-9-yl acetate	972	17916-91-5	3566
p-Menth-1,8-dien-7-al	973	2111-75-3	3557
p-Menth-1,8-dien-7-ol	974	536-59-4	2664
p-Mentha-1,8-dien-7-yl acetate	975	15111-96-3	3561
1,2,5,6-Tetrahydrocuminic acid	976	71298-42-5	3731
2,6,6-Trimethylcyclohexa-1,3-dienyl methanal	977	116-26-7	3389
2,6,6-Trimethyl-1-cyclohexen-1-acetaldehyde	978	472-66-2	3474
2,6,6-Trimethyl-1&2-cyclohexen-1-carboxaldehyde	979	432-28-7	3639
2-Formyl-6,6-dimethylbicyclo(3.1.1.)hept-2-ene (myrtenal)	980	564-94-3	3395
Myrtenol	981	515-00-4	3439
Myrtenyl acetate	982	1079-01-2	3765
2-Hydroxy-6,6-dimethylbicyclo[3.1.1]hept-2-enyl formate	983	72928-52-0	3405
Santalol (*a&ß*)	984	77-42-9	3006
Santalyl acetate	985	1323-00-8	3007
10-Hydroxymethylene-2-pinene	986	128-50-7	3938

Chemical name	JECFA number	CAS number	FEMA number
Group 2: Phenethyl alcohol, aldehyde, acid and related acetals and esters			
Phenethyl alcohol	987	60-12-8	2858
Phenethyl formate	988	104-62-1	2864
Phenethyl acetate	989	103-45-7	2857
Phenethyl propionate	990	122-70-3	2867
Phenethyl butyrate	991	103-52-6	2861
Phenethyl isobutyrate	992	103-48-0	2862
Phenethyl 2-methylbutyrate	993	24817-51-4	3632
Phenethyl isovalerate	994	140-26-1	2871
Phenethyl hexanoate	995	6290-37-5	3221
Phenethyl octanoate	996	5457-70-5	3222
Phenethyl tiglate	997	55719-85-2	2870
Phenethyl senecioate	998	42078-65-9	2869
Phenethyl phenylacetate	999	102-20-5	2866
Acetaldehyde phenethyl propyl acetal	1000	7493-57-4	2004
Acetaldehyde butyl phenethyl acetal	1001	64577-91-9	3125
Phenylacetaldehyde	1002	122-78-1	2874
Phenylacetaldehyde dimethyl acetal	1003	101-48-4	2876
Phenylacetaldehyde glyceryl acetal	1004	29895-73-6	2877
Phenylacetaldehyde 2,3-butylene glycol acetal	1005	5468-06-4	2875
Phenylacetaldehyde diisobutyl acetal	1006	68345-22-2	3384
Phenylacetic acid	1007	103-82-2	2878
Methyl phenylacetate	1008	101-41-7	2733
Ethyl phenylacetate	1009	101-97-3	2452
Propyl phenylacetate	1010	4606-15-9	2955
Isopropyl phenylacetate	1011	4861-85-2	2956

Chemical name	JECFA number	CAS number	FEMA number
Group 2: Phenethyl alcohol, aldehyde, acid and related acetals and esters			
Butyl phenylacetate	1012	122-43-0	2209
Isobutyl phenylacetate	1013	102-13-6	2210
Isoamyl phenylacetate	1014	102-19-2	2081
Hexyl phenylacetate	1015	5421-17-0	3457
3-Hexenyl phenylacetate	1016	42436-07-7	3633
Octyl phenylacetate	1017	122-45-2	2812
Rhodinyl phenylacetate	1018	139-70-8	2985
Linalyl phenylacetate	1019	7143-69-3	3501
Geranyl phenylacetate	1020	102-22-7	2516
Citronellyl phenylacetate	1021	139-70-8	2315
Santalyl phenylacetate	1022	1323-75-7	3008
p-Tolylacetaldehyde	1023	104-09-6	3071
p-Isopropylphenylacetaldehyde	1024	4395-92-0	2954
Methyl *p-tert*-butylphenylacetate	1025	3549-23-3	2690
Phenoxyacetic acid	1026	122-59-8	2872
Ethyl(p-tolyloxy)acetate	1027	67028-40-4	3157
2-Phenoxyethyl isobutyrate	1028	103-60-6	2873
Sodium 2-(4-methoxyphenoxy)propanoate	1029	13794-15-5	3773

Chemical name	JECFA number	CAS number	FEMA number
Group 3: Sulfur-containing heterocyclic and heteroaromatic derivatives			
Thiamine hydrochloride	1030	67-03-8	3322
4-Methyl-5-thiazoleethanol	1031	137-00-8	3204
Thiazole	1032	288-47-1	3615
2-(1-Methylpropyl)-thiazole	1033	18277-27-5	3372
2-Isobutylthiazole	1034	18640-74-9	3134
4,5-Dimethylthiazole	1035	3581-91-7	3274
2,4,5-Trimethylthiazole	1036	13623-11-5	3325
2-Isopropyl-4-methylthiazole	1037	15679-13-7	3555
4-Methyl-5-vinylthiazole	1038	1759-28-0	3313
2,4-Dimethyl-5-vinylthiazole	1039	65505-18-2	3145
Benzothiazole	1040	95-16-9	3256
2-Acetylthiazole	1041	24295-03-2	3328
2-Propionylthiazole	1042	43039-98-1	3611
4-Methylthiazole	1043	693-95-8	3716
2-Ethyl-4-methylthiazole	1044	15679-12-6	3680
4,5-Dimethyl-2-isobutyl-3-thiazoline	1045	65894-83-9	3621
A mixture of 2-Isobutyl-4,6-dimethyl and 4-isobutyl-2,6-dimethyldihydro-1,3,5-dithiazine	1046	101517-87-7 101517-86-6	3781
A mixture of 2-Isopropyl-4,6-dimethyl and 4-isopropyl-2,6-dimethyldihydro-1,3,5-dithiazine	1047	104691-41-0 104691-40-9	3782
2,4,6-Triisobutyl-5,6-dihydro-4H-1,3,5-dithiazine	1048	74595-94-1	4017
2,4,6-Trimethyldihydro-4H-1,3,5-dithiazine	1049	638-17-5	4018

Chemical name	JECFA number	CAS number	FEMA number
Group 3: Sulfur-containing heterocyclic and heteroaromatic derivatives			
5-Methyl-2-thiophene-carboxyaldehyde	1050	13679-70-4	3209
3-Acetyl-2,5-dimethylthiophene	1051	2530-10-1	3527
2-Thienylmercaptan	1052	7774-74-5	3062
2-Thienyldisulfide	1053	6911-51-9	3323
4-Methyl-5-thiazoleethanol acetate	1054	656-53-1	3205
2,4-Dimethyl-5-acetylthiazole	1055	38205-60-6	3267
2-Ethoxythiazole	1056	15679-19-3	3340
2-Methyl-5-methoxythiazole	1057	38205-64-0	3192
4,5-Dimethyl-2-ethyl-3-thiazoline	1058	76788-46-0	3620
2-(2-Butyl)-4,5-dimethyl-3-thiazoline	1059	65894-82-8	3619

Chemical name	JECFA number	CAS number	FEMA number
Group 4: Sulfur-substituted furan derivatives			
2-Methyl-3-furanthiol	1060	28588-74-1	3188
2-Methyl-3-(methylthio)furan	1061	63012-97-5	3949
2-Methyl-5-(methylthio)furan	1062	13678-59-6	3366
2,5-Dimethyl-3-furanthiol	1063	55764-23-3	3451
Methyl 2-methyl-3-furyl disulfide	1064	65505-17-1	3573
Propyl 2-methyl-3-furyl disulfide	1065	61197-09-9	3607
Bis(2-methyl-3-furyl) disulfide	1066	28588-75-2	3259
Bis(2,5-dimethyl-3-furyl) disulfide	1067	28588-73-0	3476
Bis(2-methyl-3-furyl) tetrasulfide	1068	28588-76-3	3260
Ethanoic acid, S-(2-methyl-3-furanyl) ester	1069	55764-25-5	
2,5-Dimethyl-3-furan thioisovalerate	1070	55764-28-8	3482
2,5-Dimethyl-3-thiofuroylfuran	1071	65505-16-0	3481
Furfuryl mercaptan	1072	98-02-2	2493
Furfuryl thioformate	1073	59020-90-5	3158
Furfuryl thioacetate	1074	13678-68-7	3162
Furfuryl thiopropionate	1075	59020-85-8	3347
Furfuryl methyl sulfide	1076	1438-91-1	3160
Furfuryl isopropyl sulfide	1077	1883-78-9	3161
Methyl furfuryl disulfide	1078	57500-00-2	3362
Furfuryl propyl disulfide	1079	252736-36-0	
2,2'-(Thiodimethylene)difuran	1080	13678-67-6	3238
2,2'-(Dithiodimethylene)difuran	1081	4437-20-1	3146
2-Methyl-3-, 5-, or 6-(furfurylthio)pyrazine	1082	65530-53-2	3189
Methyl thiofuroate	1083	13679-61-3	3311
4-[(2-Furanmethyl)thio]-2-pentanone	1084	180031-78-1	3840
3-[(2-Methyl-3-furyl)thio]-4-heptanone	1085	61295-41-8	3570
2,6-Dimethyl-3-[(2-methyl-3-furyl)thio]-4-heptanone	1086	61295-51-0	3538
4-[(2-Methyl-3-furyl)thio]-5-nonanone	1087	61295-50-9	3571
Ethyl 3-(furfurylthio)propionate	1088	94278-27-0	3674
2-Methyl-3-thioacetoxy-4,5-dihydrofuran	1089	26486-14-6	3636

Chemical name	JECFA number	CAS number	FEMA number
Group 4: Sulfur-substituted furan derivatives			
2-Methyl-3-tetrahydrofuranthiol	1090	57124-87-5	3787
Cis and *trans*-2,5-dimethyltetrahydrofuran-3-thiol	1091	26486-21-5	
Cis and trans 2,5-dimethyltetrahydro-3-furyl thioacetate	1092	252736-39-3	

Chemical name	JECFA number	CAS number	FEMA number
Group 5: Alicyclic ketones and secondary alcohols			
Cyclohexyl acetate	1093	622-45-7	2349
Cyclohexyl butyrate	1094	1551-44-6	2351
Cyclohexyl formate	1095	4351-54-6	2353
Cyclohexyl isovalerate	1096	7774-44-9	2355
Cyclohexyl propionate	1097	6222-35-1	2354
Cis and Trans-p-1(7)8-Menthadien-2-yl acetate	1098	71660-03-2	3848
3,5,5-Trimethyl cyclohexanol	1099	116-02-9	3962
Cyclohexanone	1100	108-94-1	3909
Cyclopentanone	1101	120-92-3	3910
2-Methylcyclohexanone	1102	583-60-8	3946
3-Methylcyclohexanone	1103	591-24-2	3947
4-Methylcyclohexanone	1104	589-92-4	3948
1-Methyl-1-cyclopenten-3-one	1105	2758-18-1	3435
2-Hexylidene cyclopentanone	1106	17373-89-6	2573
3-Methyl-2-cyclohexen-1-one	1107	1193-18-6	3360
2,2,6-Trimethylcyclohexanone	1108	2408-37-9	3473
2-sec-Butylcyclohexanone	1109	14756-30-1	3261
4-Isopropyl-2-cyclohexenone	1110	500-02-7	3939
Tetramethylethylcyclohexenone (mixture of isomers)	1111	999999-25-9	3061
Isophorone	1112	78-59-1	3553
3-Methyl-5-propyl-2-cyclohexen-1-one	1113	3720-16-9	3577
3-Methyl-2-(2-pentenyl)-2-cyclopenten-1-one	1114	488-10-8	3196
Isojasmone	1115	11050-62-7	3552
(E)-2-(2-Octenyl)cyclopentanone	1116	65737-52-2	3889
2-(3,7-Dimethyl-2,6-octadienyl)cyclopentanone	1117	68133-79-9	3829

Chemical name	JECFA number	CAS number	FEMA number
Group 6: Aliphatic secondary alcohols and ketones			
3-Decanone	1118	928-80-3	
5-Methyl-5-hexen-2-one	1119	3240-09-3	3365
6-Methyl-5-hepten-2-one	1120	110-93-0	2707
3,4,5,6-tetrahydropseudoionone	1121	4433-36-7	3059
6,10- Dimethyl-5,9-undecadien-2-one	1122	3796-70-1	3542
2,6,10-Trimethyl-2,6,10-pentadecatrien-14-one	1123	762-29-8	3442
3-Penten-2-one	1124	625-33-2	3417
4-Hexen-3-one	1125	2497-21-4	3352
2-Hepten-4-one	1126	4643-25-8	3399

Chemical name	JECFA number	CAS number	FEMA number
Group 6: Aliphatic secondary alcohols and ketones			
3-Hepten-2-one	1127	1119-44-4	3400
3-Octen-2-one	1128	1669-44-9	3416
2-Octen-4-one	1129	4643-27-0	3603
3-Decen-2-one	1130	10519-33-2	3532
4-Methyl-3-penten-2-one	1131	141-79-7	3368
5-Methy-3-hexen-2-one	1132	5166-53-0	3409
5-Methyl-2-hepten-4-one	1133	81925-81-7	3761
6-Methyl-3,5-heptadien-2-one	1134	1604-28-0	3363
(E)-7-Methyl-3-octen-2-one	1135	33046-81-0	3868
3-Nonen-2-one	1136	14309-57-0	3955
(E) & (Z)-4,8-Dimethyl-3,7-nonadien-2-one	1137	817-88-9	
(E)-6-Methyl-3-hepten-2-one	1138	20859-10-3	
(E,E)-3,5-Octadien-2-one	1139	30086-02-3	
3-Octen-2-ol	1140	76649-14-4	3602
(E)-2-Octen-4-ol	1141	20125-81-9	3888
2-Pentyl butyrate	1142	60415-61-4	3893
(+/-)Heptan-3-yl acetate	1143	5921-83-5	
(+/-)Heptan-2-yl butyrate	1144	39026-94-3	
(+/-)Nonan-3-yl acetate	1145	60826-15-5	
2-Pentyl acetate	1146	626-38-0	
1-Penten-3-one	1147	1629-58-9	3382
1-Octen-3-one	1148	4312-99-6	3515
2-Pentyl-1-buten-3-one	1149	63759-55-7	3725
1-Penten-3-ol	1150	616-25-1	3584
1-Hexen-3-ol	1151	4798-44-1	3608
1-Octen-3-ol	1152	3391-86-4	2805
1-Decen-3-ol	1153	51100-54-0	3824
(E,R)-3,7-Dimethyl-1,5,7-octatrien-3-ol	1154	20053-88-7	3830
6-Undecanone	1155	927-49-1	
2-Methylheptan-3-one	1156	13019-20-0	

4. Request for evaluation from WHO

Substance	Reason for the evaluation	Information required
Sodium dichloroisocyanurate (NADCC)	Proposed for use in purifying drinking-water; JECFA has been asked by the WHO Unit on Water, Sanitation and Health to evaluate its safety	All available relevant information relating to toxicity, specifications and intake

5. Contaminants

Substance	Reference	Information required
Ethyl carbamate	Seventeenth[16] report and FAS 5[17] (previously evaluated as a food additive under the name diethylpyrocarbonate)	Relevant information on toxicity, epidemiology, levels and patterns of contamination, food consumption, and analytical methods
Methylmercury	Fifty-third[8] report and FAS 44[18]	Results of the 96-month evaluation of the cohort of children in the Seychelles exposed pre-and postnatally to methylmercury in fish and other relevant toxicological, epidemiological, and intake data that have become available since the previous evaluation

6. Food additives that require revision of specifications for identity and purity

Substance	Reference	Information required
Amyloglucosidase from Aspergillus niger, var.	FNP 52/8[19]	Information required on the assay of amyloglucosidase in formulated products containing glucose. Comments on other aspects of the monograph are invited.
Gum Arabic	FNP 52/6[12] and 52/7[20]	Information on differences in the origin, manufacturing, quality and usage patterns for Gum Arabic ex *Acacia senegal* and Gum Arabic ex *A. seyal* including information whether and to what extent Gum Talha is traded and used as a commodity separate from Gum Arabic

7. Flavouring agents that require additional information for revision of specifications for identity and purity.

The information requested is noted. Sufficient information was provided on many flavouring agents previously designated as tentative at the fifty-seventh meeting of the Committee to assign full specifications to them. However, twelve tentative specifications remain. It is imperative that the data necessary for the Committee to assign full specifications to those flavouring agents still listed as tentative are provided by the date noted in this call for data for evaluation at the fifty-ninth meeting of the Committee. It should be noted that assigning

[16] *Toxicological evaluation of certain food additives with a review of general principles and of specifications.* Seventeenth report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series, No. 539, 1974.-

[17] *Toxicological evaluation of certain food additives including anticaking agents, antimicrobials, antioxidants, emulsifiers, and thickening agents.* FAO Nutrition Meetings Report Series, No. 53A, 1974; WHO Food Additives Series, No. 5, 1974.

[18] *Safety evaluation of certain food additives and contaminants*. WHO Food Additives Series, No. 44, 2000.

[19] *Compendium of food additive specifications, addendum 8*. FAO Food and Nutrition Paper, No. 52, Add. 8, 2000

[20] *Compendium of food additive specifications, addendum 7*. FAO Food and Nutrition Paper, No. 52, Add. 7, 1999

full specifications is part of the safety assessment and if such data are not provided the specifications will be withdrawn until such time as the necessary data are forthcoming.

JECFA No.	Name	Data required[1]
111	Lauric acid	Assay minimum
113	Myristic acid	Assay minimum
115	Palmitic acid	Assay minimum
116	Stearic acid	Assay minimum
390	gamma-Ionone	Identity test; assay minimum
490	Allyl thiopropionate	Specific gravity
609	1,4-Nonanediol diacetate	Identity test; assay minimum, refractive index
627	Aconitic acid	Melting point
642	3-Phenylpropyl hexanoate	Specific gravity range
678	alpha-Amylcinnamyl isovalerate	Specific gravity range
729	Dihydroxyacetophenone	Assay minimum
752	2-Phenyl-3-carbethoxyfuran	Specific gravity, refractive index
955	4-Hydroxybenzyl alcohol	All information required to establish specifications
956	4-Hydroxybenzaldehyde	
957	4-Hydroxybenzoic acid	
958	2-Hydroxybenzoic acid	
959	4-Hydroxy3-methoxybenzoic acid	
960	Vanillin *erythro*- & *threo*-butan-2,3-diol acetal	

The final JECFA specifications for the following flavouring agents were not approved by the Codex Committee for Food Additives and Contaminants. For a possible revision any information about commercial products which are different to the specifications published by the Committee is requested.

JECFA No.	Flavouring agent	JECFA No.	Flavouring agent
182	Isoamyl laurate	566	Propyl disulfide
230	Hydroxynonanoic acid delta-lactone	601	Ethyl 3-hydroxyhexanoate
238	delta-Tetradecalactone	602	Ethyl 3-oxohexanoate
250	gamma-Methyldecalactone	606	Levulinic acid
310	Isopropyl isovalerate	608	Butyl levulinate
455	Butyl sulfide	614	Diethyl malonate
476	Ethyl 3-methylthiopropionate	616	Dimethyl succinate
483	Ethyl thioacetate	617	Diethyl succinate
492	Methylthio 2-(acetyloxy)propionate	622	Diethyl tartrate
493	Methylthio 2-(propionyloxy)propionate	624	Diethyl sebacate
540	1,6-Hexanedithiol	625	Dibutyl sebacate
551	2-Mercaptopropionic acid	626	Ethylene brassylate
553	Ethyl 3-mercaptopropionate	743	Furfuryl 3-methylbutanoate
564	Dimethyl disulfide	745	5-Methylfurfural

8. Food additives that are colours and acidity regulators for which information is needed on suggested limits for individual heavy metals (e.g., lead) with supporting analytical data.

At its fifty-third meeting, the Committee agreed to systematically review and replace the existing Heavy Metals (as lead) limit test with appropriate limits for individual metals of concern in all existing food additive specifications. The Committee intends to accomplish this task by reviewing food additives on the basis of functional use, as exemplified by reviewing emulsifiers at the fifty-fifth meeting (see note below). The food additives listed below comprise the third group of substances and information is requested on suggested limits for individual heavy metals (e.g., lead) with supporting data and analytical methods as appropriate for the suggested limits. The substances listed have been reviewed to exclude those food additives that have been reviewed in the recent past and where the heavy metal limit test has already been deleted and alternative individual metals specified.

Colours	INS No.	Colours	INS No.
Allura red AC	129	Citranaxanthinn	-
Aluminum powder	173	Cochineal extract	120
Amaranth	123	Erythrosine	127
Annatto extracts (Oil &Alkali extracted)	160 b	Fast Green FCF	143
Annatto Extracts(Solvent extracted)	160 b	Fast Red E	-
beta-Apo-8' carotenoic acid ethyl ester	160 f	Grape skin extract	163 (ii)
beta-Apo-8'-carotenal	160 e	Green S	142
Azorubine	122	Indigotine	132
Beet Red	162	Iron oxides	172
Brillant Black PN	151	Lithol Rubine BK	180
Brillant Blue FCF	133	Mixed Carotenoids	-
Brown FK	154	Paprika Oleoresin	160 c
Brown HT	155	Patent Blue V	131
Canthaxanthin	161 g	Ponceau 4R	124
Caramel colours	150 a,b,c,d	Quinoline Yellow	104
Carmines	120	Red 2G	128
beta-Carotene, synthetic	160 a(i)	Riboflavin	101 (i)
Carotenes (Algae)	160 a(ii)	Riboflavin 5'-phosphate sodium	101 ii
Carotenes (Vegetable)	160 a(ii)	Saffron	-
Carthamus Red	-	Sunset Yellow FCF	110
Carthamus Yellow	-	Tartrazine	102
Chlorophyllins, copper complexes sodium and potassium salts	141 (ii)	Titanium dioxide	171
Chlorophylls	140	Turmeric oleoresin	
Chlorophylls, Copper complexes	141 (ii)	Vegetable Carbon	153

Acidity regulators	INS No.	Acidity regulators	INS No.
Acetic acid, glacial	260	Potassium acetate	261
Aluminium ammonium sulfate	523	Potassium carbonate	501 (i)
Aluminium potassium sulfate	522	Potassium dihydrogen citrate	332 (i)
Ammonia solution	527	Potassium hydrogen carbonate	501 (ii)

Acidity regulators	INS No.	Acidity regulators	INS No.
Ammonium carbonate	503 (i)	Potassium hydroxide	525
Ammonium dihydrogen phosphate	342 (i)	Sodium acetate	262 (i)
Calcium citrate	333	Sodium carbonate	500 (i)
Calcium dihydrogen phosphate	341 (i)	Sodium dihydrogen citrate	331 (i)
Calcium DL malate	352 (ii)	Sodium dihydrogen phosphate	339 (i)
Calcium Hydroxide	526	Sodium DL malate	350 (ii)
Calcium Lactate	327	Sodium fumarate	365
Calcium oxide	529	Sodium hydrogen carbonate	500 (ii)
Calcium polyphosphate	452 (iv)	Sodium hydrogen DL-malate	350 (i)
Diammonium hydrogen phosphate	342 (ii)	Sodium hydroxide	524
Dicalcium pyrophosphate	450 (vi)	Sodium sesquicarbonate	500 (iii)
Dipotassium hydrogen phosphate	340 (ii)	Sulfuric acid	513
Disodium hydrogen phosphate	339 (ii)	Triammonium citrate	380
Disodium pyrophosphate	450 (i)	Tricalcium phosphate	341 (iii)
Hydrochloric acid	507	Tripotassium citrate	332 (ii)
Magnesium hydroxy carbonate	504 (ii)	Tripotassium phosphate	340 (iii)
Magnesium hydroxide	528	Trisodium citrate	331 (iii)
Magnesium DL lactate	329	Trisodium phosphate	339 (iii)
Phosphoric acid	338		

Note: Comments on the proposed limits for the revised heavy metals limits from the fifty-seventh meeting are invited. Section 3 of the summary report of the fifty-seventh meeting states that “If alternative values and supporting data are not received by the deadline for submission of data for the fifty-ninth meeting, the proposed metal limits will be adopted and supersede the existing limits, replacing those published in FAO Food and Nutrition Paper 52 and its addenda 1 to 8.”

ANNEX 2

GUIDELINES FOR THE PREPARATION OF DATA SHEETS

Description of the physical and chemical characteristics of the additive should be given.

Raw material(s) used in commercial production of the additive should be listed. This section may be subdivided according to the different processes for manufacturing the additive.

Method of Manufacture by which raw material(s) is converted into a finished commercial food additive should be described. It is acknowledged that some of these data may be trade secrets. Therefore, such a data is held in strict confidence.

Impurities including intermediates should be listed and levels given:

- substances in raw materials which remain in the additive
- by-products from the method(s) of manufacture
- residues of processing aids used in the manufacture

Functional use(s) should be indicated by describing the technological purpose for using the additive and the levels of use on a commodity basis.

Estimate(s) of daily intake by humans to the additive through the food chain should be provided. The calculations and assumptions made in deriving each estimate are to be given.

Reactions and fate in food should be described. If no detailed data are available, statements on the general chemical reactivity of the additive may be reported.

Effects on nutrients, both adverse and beneficial effects resulting from use of the additive should be indicated.

ANNEX 3

JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES

BACKGROUND

The Joint FAO/WHO Expert Committee on Food Additives (JECFA) was established in the mid-1950s by the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) to assess chemical additives in food on an international basis. The first meeting was held in 1956 in response to recommendations made at an FAO/WHO Conference on Food Additives that met in Geneva in 1955.

In the early 1960s the Codex Alimentarius Commission (CAC), which is an international intergovernmental body, was established. The primary aims of the CAC are to protect the health of the consumer and facilitate international trade in food. At the time that the CAC was formed it was decided that JECFA would provide expert advice to Codex on matters relating to food additives. A system was established whereby the Codex Committee on Food Additives, a general subject committee, identified food additives that should receive priority attention, which were then referred to JECFA for assessment before being considered for inclusion in Codex Food Standards.

This system is still in place, but it has been expanded to include food contaminants and residues of veterinary drugs in food to provide advice to the presently-existing Codex Committee on Food Additives and Contaminants (CCFAC) and Codex Committee on Residues of Veterinary Drugs in Foods (CCRVDF). JECFA also provides scientific advice directly to FAO and WHO Member States, and requests for assessment may come directly from them. JECFA is not a component of the CAC.

Specialists invited to serve as Members of JECFA are independent scientists who serve in their individual capacities as experts, and not as representatives of their governments or employers. The goal is to establish safe levels of intake and to develop specifications for identity and purity (food additives) or maximum residue limits when veterinary drugs are used in accordance with good practice in the use of veterinary drugs.

Through mid-2001, a total of fifty-seven meetings of JECFA have been held. The reports are published in the WHO Technical Report Series. The toxicological evaluations, that summarize the data that serve as the basis for the safety assessments, are published in the WHO Food Additives Series. The specifications and residues evaluations are published in the FAO Food and Nutrition Paper Series. All of the specifications that had been prepared from the first through the thirty-seventh meetings have been consolidated in a Compendium of Food Additives Specifications, which was published by FAO in 1992. From the thirty-ninth meeting onwards the specifications have been published in six Addenda to the Compendium. The second edition of the Compendium is in preparation.

A *Summary of Evaluations* performed by the Joint FAO/WHO Expert Committee on Food Additives, a comprehensive document that summarizes all JECFA evaluations from the first through the forty-ninth meetings, has been published. Printed copies are available from ILSI Press, 1126 Sixteenth Street, NW, Washington DC, 20036-4810, USA. It is available at their website at islipress@ilsi.org. The price is USD 175.00 (USD 125.00 for developing countries). It is available free of charge on the Internet in a searchable format at http://www.who.int/pcs/, http://www.fao.org/es/esn/jecfa/jecfa.htm or http://www.ilsi.org.