Parma, 04 August 2008

MINUTES OF THE 31th PLENARY MEETING OF THE SCIENTIFIC PANEL ON FOOD ADDITIVES, FLAVOURINGS, PROCESSING AIDS AND MATERIALS IN CONTACT WITH FOOD

Held in Parma on 8-9 July 2008

Adopted on 9 July 2008

AGENDA:

MINUTES OF THE 31st PLENARY MEETING OF THE SCIENTIFIC PANEL ON FOOD ADDITIVES, FLAVOURINGS, PROCESSING AIDS AND MATERIALS IN CONTACT WITH FOOD (AFC) Held in Parma on 8-9 July 2008

PARTICIPANTS

Panel Members:
Fernando Aguilar, Herman Autrup, Susan Barlow (Chair), Riccardo Crebelli, Karl-Heinz Engel (2nd day) (Vice Chair), Nathalie Gontard, David Gott, Sandro Grilli, Rainer Gürtler, John Christian Larsen (Vice Chair), Jean-Charles Leblanc, Catherine Leclercq (1st day), Xavier Malcata (1st day), Wim C. Mennes, Maria Rosaria Milana, Iona Pratt, Ivonne Rietjens, Paul Tobback, Fidel Toldrá.

Experts: Joern Gry (item 8), Gerrit Speijers (item 8.1)

Apologies:
Laurence Castle, Wolfgang Dekant.

EFSA

AFC Unit: Dimitrios Spyropoulos, Alexandre Feigenbaum, Hugues Kenigswald, Kim Rygaard Nielsen, Ana-Maria Rincon, Stavroula Tasiopoulou, Anne Theobald, (scientific staff) – Maria Correia, Maud Pâques (administrative staff)

Communications Department: Anne-Laure Gassin (item 9.1), Stephen Pagani (item 9.1)

Commission:
X. Pavard

1. WELCOME; APOLOGIES FOR ABSENCE

The chair welcomed the participants and the secretariat noted apologies.

2. ADOPTION OF THE AGENDA

The agenda was adopted with the addition of an item arising from the recent meeting of the Joint FAO/WHO Expert Committee on Food Additives under Any Other Business.

3. DECLARATIONS OF INTEREST

The declarations concerning items on the agenda of this meeting are noted under the specific item.

4. MATTERS ARISING FROM THE 30TH PLENARY MEETING HELD ON 20-22 MAY 2008

4.1. Adoption of the minutes

The draft minutes were adopted. They can be seen on:
http://www.efsa.europa.eu/en/science/afc/afc_meetings/afc_30th_meeting.html

5. GENERAL INFORMATION FROM EFSA AND THE COMMISSION

This was the last Plenary meeting of the AFC Panel. The two new Scientific Panels on food additives and nutrient sources added to food (ANS) and on food contact materials, enzymes, flavourings and processing aids (CEF) taking over the AFC activities will start on the 10th of July. There will be a rearrangement of the EFSA website accordingly. The webpage for the AFC Panel will remain for historical reasons and the name of the Panel on the webpage will be changed to "former AFC Panel". Two new living webpage's will be created, one for each new Panel, where the opinions adopted by the AFC Panel will also be copied according to the area.

6. NUTRIENT SOURCES

6.1. Selenium yeasts

(EFSA-Q-2005-078, EFSA-Q-2005-119, EFSA-Q-2005-186, EFSA-Q-2006-215, EFSA-Q-2006-216, EFSA-Q-2006-217)

The rapporteur presented the modifications which were introduced after the discussion at the last Plenary meeting. Minor changes were agreed and the opinion was adopted.

The opinion relates only to selenium-enriched yeasts in compliance with the following product characteristics:

Selenium-enriched yeasts produced by culture in the presence of sodium selenite as selenium source and containing, in the dried form as marketed, not more than 2.5 mg Se/g. The predominant organic selenium species present in the yeast is selenomethionine which constitutes between 60 and 85% of the total selenium in the product. The content of other organic selenium compounds including selenocysteine does not exceed 10%.

On the basis of the data provided by the petitioners and information in the literature on the bioavailability, metabolism and toxicity of selenium-enriched yeast and selenomethionine, from dietary sources and in the form of dietary supplements, the Panel concluded that the use of selenium-enriched yeast, complying with the general product characteristics, as a source of selenium when used in food supplements or added for nutritional purposes in food does not present a safety concern at the proposed intake levels.

The Panel noted that the quantity of yeast ingested as a result of the use of supplements containing selenium-enriched yeast will be small (up to 200 mg daily) and that the cellular constituents of the yeast are anticipated to be endogenous in the human body. The Panel also concludes that the quantity of yeast ingested as a result of the use of supplements containing selenium-enriched yeast is unlikely to present an allergenic risk.

For the biotransformed yeast produced using selenium dioxide as a source and selenium-enriched yeast produced using Se-aminoate, the Panel considered that insufficient information was provided on the selenium species likely to be present in these products. The Panel also noted that in the case of these two products, the selenium source used in the manufacturing process was not sodium selenite. The Panel considered therefore that it was not possible to conclude that the profile of the selenium species in these two selenium-rich yeast products is likely to be similar to those reported for the other products, with selenomethionine accounting for approximately 60 - 85% of the total selenium. Due to deficiencies in the bioavailability and safety data provided on the selenium species likely to be present in these products, the Panel was unable to evaluate their safety.

6.2. **Aspartates sources**

(EFSA-Q-2005-129, EFSA-Q-2006-260, EFSA-Q-2005-215, EFSA-Q-2005-101, EFSA-Q-2006-253, EFSA-Q-2006-294, EFSA-Q-2005-109, EFSA-Q-2006-282, EFSA-Q-2006-283, EFSA-Q-2006-284, EFSA-Q-2006-285, EFSA-Q-2006-305, EFSA-Q-2006-254, EFSA-Q-2005-161, EFSA-Q-2006-259)

The draft opinion was presented by the rapporteur and several points were discussed.

It was noted that the possible intake of aspartates from the use in food supplements was approximately twice as high as from the general intake from food. The Panel considered that additional expertise in the field of human nutrients was required to establish the safety of this intake level for aspartate.

The secretariat was asked to liaise with the NDA Panel in this matter.

6.3. **Lysinates (Questions No EFSA-Q-2005-142, EFSA-Q-2005-127, EFSA-Q-2005-218)**

The rapporteur presented the draft opinion. It was discussed and a number of revisions of the text were agreed. The opinion was adopted.

The Panel concluded that the use of magnesium L-lysinate, calcium L-lysinate and zinc L-lysinate used in food supplements as a source of respectively magnesium, calcium and zinc is not of safety concern at the proposed use levels.

6.4. **Pyridoxal-5'-phosphate (Question No EFSA-Q-2006-228 and EFSA-Q-2008-026)**

The rapporteur presented the draft opinion. It was discussed and a number of revisions of the text were agreed. The opinion was adopted.

The Panel concluded that the use of pyridoxal 5'-phosphate as a source for vitamin B_6 in food supplements intended for the general population is of no safety concern if use levels are in compliance with defined upper safe use levels.

However, the Panel is concerned that the use levels of pyridoxal 5'-phosphate proposed by the petitioners are 50 and 90 mg/day and are substantially higher than the tolerable upper intake levels defined by the SCF in 2000 of 25 mg/day for adults and 5-20 mg for children depending on their body weight.

7. ADDITIVES

7.1. Natamycin (Question No EFSA-Q-2006-009)

This item was deferred due to the lack of time.

7.2. High viscosity white mineral oils (Question No EFSA -Q-2008-003)

This item was deferred due to the lack of time.

8. FLAVOURINGS

Ivonne Rietjens declared that she is a member of the FEMA (Flavour and Extract Manufacturers Association) Expert Panel. Although this was not considered a direct conflict of interest for the particular flavourings under evaluation at this meeting, it was decided that she should not participate in the discussion on these evaluations, with the exception of the discussion on coumarin; Professor Rietjens has conducted research on coumarin and contributed factual information during the discussion but did not take part in the decision on adoption of the opinion.

8.1. Coumarin

S. Grilli declared an interest for coumarin as he had advised an Italian distribution company regarding use of coumarin in cosmetics. It was not considered as a conflict of interest and he was invited to participate in the discussions.

The Commission requested the European Food Safety Authority (EFSA) to consider if the Tolerable Daily Intake (TDI) for coumarin set in the Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food (the AFC Panel) of October 2004 is still valid, taking into account the additional information provided and to consider the possible consequences on the health of the consumers when the TDI would be slightly exceeded during a period of one or two weeks.

The rapporteur presented the Draft Statement on Coumarin, where the current EU regulatory status and the background of previous scientific evaluations were given, and the exposure data and available data on toxicity were presented.

General comments on the opinion were given. The Panel went through the document and new wording and minor reconstruction of the document were proposed.

The Panel considered the toxicity studies, studies on the metabolism of coumarin in humans with polymorphisms available since the last opinion of 2004, as well as clinical studies and concluded to maintain the TDI of 0.1 mg coumarin/kg body weight allocated in the 2004 opinion.

Considering the toxicity data on coumarin, including the timing of the onset of liver effects, recovery of these effects after cessation of the exposure to coumarin and the elimination half-life, the Panel concluded that exposure to coumarin resulting in an intake 3 times higher than the TDI for one to two weeks is not of safety concern.

The Draft Opinion on coumarin was adopted subject to the proposed changes. The complete Opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm.

8.2. **Flavouring Group Evaluations (FGE)**

J.C. Larsen declared an interest because he had participated in the evaluation of several flavourings by the Joint Expert Committee on Food Additives (JECFA). It was not considered as a conflict of interest and he was invited to participate in the discussions.

8.2.1. ***FGE.38***

3-Butenyl isothiocyanate

The rapporteur presented the Draft Opinion, which was discussed and minor changes to the text were proposed.

According to the default Maximised Survey-derived Daily Intakes (MSDI) approach, the candidate substance has a daily *per capita* intake which is below the threshold of concern for the structural class.

When the estimated intake was based on the modified Theoretical Added Maximum Daily Intake (mTAMDI) approach, the intake is above the threshold of concern for the structural class. Therefore more reliable exposure data are required.

The Panel concluded that the available data on genotoxicity and carcinogenicity do not preclude the evaluation of 3-butenyl isothiocyanate [FL-no: 12.283] through the Procedure.
The specifications are lacking an identity test. Thus, the final evaluation of the material of commerce cannot be performed for the substance, pending further information.

The Draft Opinion was adopted subject to the proposed changes. The complete Opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm.

8.2.2. ***FGE.44***

cis-2-Heptyl-cyclopropanecarboxylic Acid from Chemical Group 30.

The rapporteur presented the Draft Opinion, which was discussed and minor changes to the text were proposed.
No metabolism, genotoxicity or toxicity data have been provided, but since the candidate substance, cis-2-heptyl-cyclopropanecarboxylic acid [FL-no: 08.131], can be considered as a saturated fatty acid, it does not give rise to concern regarding genotoxicity.
Additional, cis-2-heptyl-cyclopropanecarboxylic acid can be anticipated to be metabolised to innocuous products.
The estimated intakes based on the MSDI and mTAMDI approaches are below the threshold of concern for the structural class.
The specifications are deficient as the stereoisomeric composition and minimum assay value are missing and accordingly the safety evaluation cannot be finalised pending these information.

The Draft Opinion was adopted subject to the proposed changes. The complete Opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm.

8.2.3. ***FGE.48***

Aminoacetophenone from Chemical Group 33.

The rapporteur presented the Draft Opinion, which was discussed and minor changes to the text where proposed.

The Panel considered that the candidate substance had a structural alert for genotoxicity despite the available negative genotoxicity tests on the candidate substance, which are not considered to be of adequate quality to provide reassurance of a lack of genotoxic activity. Therefore, the Panel concluded that there were insufficient data on genotoxicity of the substance and additional genotoxicity data are requested before it can be decided whether to take 2-aminoacetophenone [FL-no: 11.008] through the Procedure.

The Draft Opinion was adopted subject to the proposed changes. The complete Opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm.

8.2.4. ***FGE.218***

Alpha, beta-Unsaturated aldehydes and precursors from subgroup 4.2 of FGE.19: Furfural derivatives.

FGE.218 deals with alpha,beta-unsaturated aldehydes or precursors for alpha,beta-unsaturated aldehydes. The alpha,beta-unsaturated aldehyde and ketone structures are considered by the Panel to be a structural alert for genotoxicity (EFSA, 2008b*), and accordingly the substances in FGE.218 will be considered especially with respect to the available data on genotoxic or carcinogenic activity.

The rapporteur presented the Draft Opinion and the Panel agreed on the approach and the type of information to be included in this type of FGE with special attention on genotoxic or carcinogenic activity.

The Draft Opinion was discussed and minor changes to the text where proposed.

The present group consists of furfural [FL-no: 13.018] and seven substances structurally related to furfural, 5-methylfurfural [FL-no: 13.001], furfuryl alcohol [FL-no: 13.019] and five esters of furfuryl alcohol and aliphatic saturated carboxylic acids [FL-no: 13.057, 13.062, 13.067, 13.068 and 13.128]. The five furfuryl esters are anticipated to be hydrolysed to furfuryl alcohol (and carboxylic acids). Furfuryl alcohol is expected to be oxidised to the alpha,beta-unsaturated aldehyde furfural. However, based on data available the Panel has concluded that furfural is not of concern with respect to genotoxicity.
It is anticipated that for 5-methylfurfural [FL-no: 13.001] the 5-methylgroup in the heteroaromatic system can be oxidised to the primary alcohol 5-hydroxymethylfurfural [FL-no: 13.139], which may be metabolised to 5-[(sulphoxy)methyl]furfural, which shows genotoxic potential *in vitro* and accordingly 5-hydroxymethylfurfural cannot be evaluated through the Procedure (Item 8.2.6, FGE.66). So, with respect to 5-methylfurfural the Panel concluded that it cannot be ruled out that genotoxic metabolites may be formed and accordingly it cannot be evaluated through the Procedure.

The Panel concluded that not only furfural but also the structurally related furfuryl alcohol and the five furfuryl esters are not of concern with respect to genotoxicity and will be evaluated in FGE.66.
The Draft Opinion was adopted subject to the proposed changes. The complete Opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm.

*Minutes of the 26th Plenary meeting of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food, Held in Parma on 27 - 29 November 2007. Parma, 7 January 2008. [Online]. Available: http://www.efsa.europa.eu/EFSA/Event_Meeting/afc_minutes_26thplen_en.pdf.

8.2.5. ***FGE.66***

Consideration of Furfuryl Alcohol and Related Flavouring Substances Evaluated by JECFA (55th meeting).

The rapporteur presented the Draft Opinion, which was discussed and minor changes to the text were proposed.

The Joint FAO/WHO Expert Committee on Food Additives (the JECFA) has evaluated 15 substances in the group of furfuryl alcohol and related substances at their 55th meeting. Nine of these substances are alpha,beta-unsaturated aldehydes or precursors for such, which the Panel considers to be a structural alert for genotoxicity. Eight of these nine substances [FL-no: 13.001, 13.018, 13.019, 13.057, 13.062, 13.067, 13.068 and 13.128] have initially been considered with respect to genotoxicity in FGE.218 (Item 8.2.4). The Panel concluded that for seven of the eight substances, the genotoxicity data available do not preclude their evaluation through the Procedure.

For one substance, 2-benzofurancarboxaldehyde [FL-no: 13.031], the Panel has concluded that it is structurally different from the eight other substances and therefore it is moved to another FGE.
For one substance, 5-methylfurfural [FL-no: 13.001], it cannot be ruled out that genotoxic metabolites may be formed and accordingly the Procedure cannot be applied to this substance and accordingly additional data are needed.
For all the substances evaluated through the Procedure use levels are needed in order to calculate the modified Theoretical Added Maximum Daily Intake (mTAMDI)
For three substances [FL-no: 13.003, 13.005 and 13.025] the Panel has reservations; no European production volumes are available, preventing them to be evaluated using the Procedure.
For the remaining ten furfuryl derivatives the Panel concluded that they would be of no safety concern when used at their estimated levels of intake as flavouring substances based on the Maximised Survey-derived Daily Intake (MSDI) approach.

The Draft Opinion was adopted subject to the proposed changes. The complete Opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm.

8.2.6. ***FGE.89***

Consideration of phenyl-substituted aliphatic tertiary alcohols and related aldehydes and esters evaluated by JECFA (63rd and 68th meetings).

This issue was deferred due to lack of time.

8.2.7. ***FGE.19***

A separate meeting on the strategy of genotoxicity testing with experts on the field was held. The final position of the new CEF Panel is expected to be communicated to industry by the end of September.

9. FOOD CONTACT MATERIALS

9.1. **Bisphenol A (Question No EFSA-Q-2008-382)**

The following members expressed an interest: Ivonne Rietjens because her associate professor carries out research on bisphenol-A (BPA) funded by the Netherlands Organization for Health Research and Development. David Gott was a member of the secretariat in the English scientific committee which evaluated BPA. Maria Rosaria Milana has provided scientific advice to her national risk management authority on BPA. Wim Mennes had participated in European Chemicals Bureau's meetings for the EU RAR on BPA. None of these was considered as a conflict of interest and they were all invited to participate in the discussions.

The draft opinion was presented and changes were noted. Subject to these changes the opinion was adopted.

The Panel was asked to reconsider the possible age-dependent toxicokinetics of BPA in animals and humans and their implication for hazard and risk assessment of BPA in food. The Panel concluded that the exposure of a human fetus to free BPA would be negligible due to the maternal capacity for conjugation whereas the fetal rat would be exposed to free BPA from the maternal circulation. Taking account of data in human neonates on compounds structurally related to BPA which undergo glucuronidation/sulphation, the Panel considers that there is sufficient capacity in the neonate to conjugate BPA at doses below 1 mg/kg bw (the Panel noted that exposures at the TDI of 0.05 mg/kg bw are 20 fold lower than this). Therefore, the Panel concluded that there is sufficient capacity for biotransformation of BPA to hormonally inactive conjugates in neonatal humans at exposures to BPA that were considered in the EFSA opinion of 2006 and the European Union Risk Assessment Report (EC, 2003, 2008).
In addition, the Panel notes that because of the metabolic differences described, exposure to free BPA in adult, fetal and neonatal rats will be greater than in humans and that rats would therefore be more susceptible to BPA-induced toxic effects than humans on an equivalent dose basis. The Panel therefore considers that its previous risk assessment based on the overall NOAEL for effects in rats and using a default uncertainty factor of 100 can be considered as conservative for humans. The Panel concluded that the differences in age-dependent toxicokinetics of BPA in animals and humans would have no implication for the EFSA 2006 risk assessment of BPA.

The full opinion will be published on:
http://www.efsa.europa.eu/EFSA/ScientificPanels/AFC/efsa_locale-1178620753812_Opinions425.htm

10. ANY OTHER BUSINESS

10.1. **JECFA 69th meeting summary and conclusions - Incorporation of the single portion exposure technique (SPET)**

The Panel noted that at its recent meeting, the JECFA had decided to utilise the single portion exposure technique (SPET) which was developed by the JECFA to account for presumed patterns of consumer behaviour with respect to food consumption and the possible uneven distribution of dietary exposure for consumers of foods containing flavouring agents. This new technique will be used by JECFA in future evaluations to estimate the high end of the range of exposures within the evaluation Procedure of flavourings. The document is available on:
http://www.fao.org/ag/agn/agns/files/jecfa69_final.pdf