COMMITTEE ON TOXICITY OF CHEMICALS IN FOOD, CONSUMER PRODUCTS AND THE ENVIRONMENT

Steviol exposures for children aged 1-5 years based on UK consumption data

Exposure Assessment

1. As requested in the previous meeting, exposures to steviols were estimated using recent consumption data from the UK National Diet and Nutrition Survey (NDNS) for the 1.5 -5 year age group. The exposures were calculated assuming that Steviols are present at the Maximum Permitted Level specified for each category by Regulation (EC) No 1333/2008. This would allow the Committee to compare UK specific exposures to the ADI of 4 mg/kg bw/d set by EFSA in 2010.

2. Table 1 shows that Mean exposure to steviols is 3.1 mg/kg bw/d. The 97.5th percentile exposures were estimated by either assuming a person is a high level consumer of all food groups (9.9 mg/kg bw/d), or, using EFSA's approach, by assuming that an individual is a high level consumer of one food category and would be an average consumer of the others. In line with the EFSA approach, this estimate was refined by selecting a group that made one of the highest contribution to exposure. Fruit nectar was one of the major contributors to 97.5th percentile exposure, so adding the exposure from this group to mean exposure from the rest of the groups resulted in a high-level exposure estimate of 4.5 mg/kg bw day.

Assumptions and Uncertainties

3. In the absence of actual use levels, the exposure Assessments were based on using the Maximum Permitted Level, which is likely to result in highly conservative estimate.

4. According to relevant regulation steviol glycosides are only permitted for use in Energy Reduced or No Added Sugar commodities, however regular food commodities have been used as surrogates in the instances where a "no added sugar" alternative was not available within the NDNS food codes database. This is likely to produce an additional degree of conservatism in the estimates.

5. The NDNS consumption estimates are based on a diary record over 4-days which results in uncertainty about long-term habitual intakes.

Conclusions

6. The exposure estimates carried out for UK children in age range 1.5 to 5 years are in line with the refined exposure estimates reported by EFSA in 2015 (up to 4.3 mg/kg bw/d in toddlers at the 95th percentile). A refinement of the 97.5th percentile exposure was carried out, in line with the EFSA approach. The resulting estimate (4.5mg/kg bw/d) is close to the ADI of 4mg/kg bw/d which is consistent with EFSA findings.

Table 1: Exposure of children aged 1-5 to Steviols using NDNS data Years 1-8

Group Name	Mean Consumption (g/kg bw/d)	P97.5 Consumption (g/kg bw/d)	MPL for Category (mg/kg)	Mean steviol exposure (mg/kg bw/d)	P97.5 steviol exposure (mg/kg bw/d)	High Exposure (mg/kg bw/d)
Chewing gum*	0.055	0.098	3300	0.18	0.32	0.18
Cocoa and chocolate products	0.45	1.7	270	0.12	0.46	0.12
Desserts*	0.79	4.6	100	0.079	0.46	0.079
Edible Ices	1.4	4.2	200	0.28	0.84	0.28
Flavoured drinks	3.2	12	80	0.26	0.96	0.26
Fruit nectars	6.6	21	100	0.66	2.1	2.1
Flavoured fermented milk products*	2.5	8.4	100	0.25	0.84	0.25
High fibre breakfast cereals	0.78	2.4	330	0.26	0.79	0.26
Jam, jellies, marmalades*	1	5.5	200	0.2	1.1	0.2
Mustard*	0.029	0.076	120	0.0035	0.0091	0.0035
Other confectionery	0.39	0.91	350	0.14	0.32	0.14
Other confectionery: cocoa based spread	0.38	0.84	330	0.13	0.28	0.13
Other non- alcoholic drinks	7.5	32	30	0.23	0.96	0.23
Potato, cereal, flour, starch based snacks	0.36	1.5	20	0.0072	0.03	0.0072
Processed fish and fisheries products*	0.39	0.45	200	0.078	0.09	0.078
Sauces	0.31	1.1	120	0.037	0.13	0.037
Sauces -soy bean only*	0.08	0.37	175	0.014	0.065	0.014
Soups and broths*	3.7	3.7	40	0.15	0.15	0.15
Total (mg/kg bw/d)				3.1	9.9**	4.51***

Rounded to 2SF

*NB: Estimates of the 97.5th percentile based on less than 60 consumers should be treated with extreme caution, as they may not be as representative for larger number of consumers.

** Estimated by sum of 97.5th exposure from all groups

*** Estimated by assuming a person is a high level consumer of one food category (fruit nectars) and an average consumer of the rest. The category with the highest 97.5th percentile exposure has been selected to represent the worst case for a high level consumer.

Questions for the Committee

I. Do members have any comments based on the information presented?

Secretariat
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