Advice 15-2017 of the Scientific Committee of the FASFC in regard to action levels for chemical contaminants (flame retardants, perfluoralkyl substances, dioxins and dioxin-like PCB and benzene) in foodstuffs

Background & Terms of reference

The Scientific Committee is asked to propose action limits for certain combinations of chemical contaminants / foodstuffs for which no maximal limits exist in legislation in order to provide the FASFC with a scientific basis in view of preserving the safety of the food chain.

More specifically it is asked to propose action limits for:

- flame retardants (hexabromocyclododecane - HBCDD and polybrominated diphenyl ethers - PBDE) in dairy products (butter, cheese, ..), milk, eggs, vegetable oils, meat, fish, foods for infants and in fish oil based food supplements ;
- perfluoralkyl substances (Perfluorooctanesulfonic acid - PFOS, Perfluorooctanoic acid – **PFOA**) in meat (bovine, porc, chicken), in egg products intended for the manufacture of foodstuffs, raw milk, eggs and fish (trout, tilapia, plaice, rays and cod);
- dioxins (the sum of PCCD/F) and dioxin-like PCBs in honey, game meat and rabbit;
- benzene in coffee, vegetable oils, smoked fish, canned meat products, pâté, smoked ham, breakfast cereals, meat and fish salad, non-alcoholic beverages, vegetable juices, and flavorings used in the preparation of foodstuffs.

Methodology

The Scientific Committee has relied on a methodology described in the document "Inventory of actions and action limits and proposal of harmonization in the framework of official controls - Part 1 Action limits for chemical contaminants" (FASFC, 2017) in order to propose action limits. The action limits have been calculated by dividing the toxicological reference value of the compounds by the 97,5^{the} percentile of consumption of the concerned foodstuffs. The calculated values were then rounded as proposed in a document from OEDC (2011) about maximum residue limits (MRL) for pesticides. While the OEDC document proposes globally to round up the MRL values of the pesticides, in this advice action limits are rounded using mathematical rules.

Results

The proposed action limits for each matrix/parameter combination are shown in the tables here-under.

1. Hexabromocyclododecane (HBCDD)

Foodstuff	**Proposed action limit**
Dairy products (cheese, …)	500 (ng/g fat)
Milk	400 (ng/g fat)
Eggs	3 000 (ng/g fat)
Vegetable oils and butter	900 (ng/g fat)
Meat	1 000 (ng/g fat)
Meat preparations and meat based products (sausages, ham, …)	1 000 (ng/g fat)
Fish oil based food supplements	2 000 (ng/g fat)

Food for infants	10 (ng/g wet weight)
Fish	400 (ng/g wet weight)

2. Polybrominated diphenyl ethers (PBDE)

Foodstuff	**Proposed action limit for the sum of PBDE**
Dairy products (cheese, …)	40 (ng/g fat)
Milk	30 (ng/g fat)
Eggs	200 (ng/g fat)
Vegetable oils and butter	60 (ng/g fat)
Meat	80 (ng/g fat)
Meat preparations and meat based products	80 (ng/g fat)
Fish oil based food supplements	100 (ng/g fat)
Food for infants	0,7 (ng/g wet weight)
Fish	30 (ng/g wet weight)

3. Perfluorooctanesulfonic acid (PFOS)

Foodstuff	**Proposed action limit**
Meat	50 (µg/kg)
Milk	6 (µg/kg)
Eggs	100 (µg/kg)
Fish	150 (µg/kg)

4. Perfluorooctanoic acid (PFOA)

Foodstuff	**Proposed action limit**
Meat	500 (µg/kg)
Milk	60 (µg/kg)
Eggs	1 000 (µg/kg)
Fish	1 500 (µg/kg)

5. Dioxins and dioxine-like PCBs

Foodstuff	Proposed action limit for PCCD/PCDF and PCB-DL
Honey	1 (pg WHO-TEQ/g wet weight)
Game meat (including wild rabbit)	10 (pg WHO-TEQ/g fat)
Rabbit meat	3 (pg WHO-TEQ/g fat)

6. Benzene

Foodstuff	Proposed action limit
Coffee	500 (µg/kg)
Vegetable oils	1 000 (µg/kg)
Smoked fish	500 (µg/kg)
Canned meat products	150 (µg/kg)
Pâté	3 000 (µg/kg)
Smoked ham	400 (µg/kg)
Breakfast cereals	200 (µg/kg)
Meat salad	300 (µg/kg)
Fish salad	200 (µg/kg)
Non-alcoholic beverages	10 (µg/kg)
Vegetable juices	30 (µg/kg)
Flavorings used in the preparation of foodstuffs	30 (µg/kg)

Conclusions

The Scientific Committee has proposed action limits for matrix/parameter combinations without maximal limits in legislation and in particular for flame retardants, alkylperfluorinated compounds, dioxins and dioxin-like PCBs and benzene in different foodstuffs.

The full text is available on this website in dutch and in french.