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Evaluation of certain food additives and contaminants, Eightieth report of the Joint FAO/WHO

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This publication is the 80th Report of the Joint FAO (Food Agricultural Organization of the United Nations)/WHO Expert Committee on Food Additives (JECFA) held in Rome in June 16 to 25, 2015. This 80th meeting of JECFA was convened on the basis of the recommendation made by the 79th report of JECFA.

In this Report, the committee provided its views on the safety of five food additives for the first time and also re-evaluated the safety of one other. The dietary exposure to one previously evaluated food additive was also evaluated, and nine food additives were considered for revision of specifications.

The committee carried out exposure assessment of benzoate. Based on the reported use levels from industries and analytical measurements from literature, the committee noted that the levels were lower than the limit given in Codex General Standard for Food Additives which was 600 mg/l. It was also noted that the mean per capita benzoate exposure was below the upper bounds of the acceptable daily intake (ADI) for benzoates which is 0-5 mg/kg body weight (bw) expressed as benzoic acid.

For lipase from *Fusarium heterosporum* expressed in *Ogataea* (Hansenula) *polymorpha*, the committee established an ADI (acceptable daily intake) 'not specified' when used as per good manufacturing practices. Similarly, for maltotetrahydrolase from *Pseudomonas stutzeri* expressed in *Bacillus licheniformis*, the committee established an ADI 'not specified' when used as per good manufacturing practices. These two enzymes, however, would fall in the category of products derived from genetically modified organisms.

For mixed glucanase, cellulose and xylanase from *Rasamsonia emersonii*, also referred to as *Penicillium emersonii*, the committee established an ADI 'not specified' when used as per good manufacturing practices; for magnesium stearate and palmitate, an ADI 'not specified'; however, with a warning that a combined high exposure may result in a laxative effect in the latter combination.

On polyvinyl alcohol-polyethylene glycol graft copolymer, the committee decided not to establish an ADI 'not specified', in view of the impurities, ethylene glycol and diethylene glycol present in the copolymer.

A revision of the specifications was recommended for advantame and annatto (solvent-extracted bixin and solvent-extracted norbixin) extracts, calcium silicate, amorphous silicon dioxide and sodium aluminium silicate. The committee decided to withdraw the tentative specifications for aluminium silicate and calcium aluminium silicate and also glycerol ester of gum rosin because it did not receive any relevant information on their technical specifications.

In addition to the above additives, the committee also evaluated two contaminants in the food chain. For contaminants in the category non-dioxin-like polychlorinated biphenyls, the persistent organic chemicals that accumulate in the environment and humans and associated with a broad spectrum of health effects, the committee recommended further toxicological studies. Regarding pyrrolizidine alkaloids naturally present in many plant species, the committee could not complete the toxicological evaluation because of the data gaps that were identified.

The report also contains the recommendations for future work of the committee. Overall, the book provides useful technical information to the academicians involved in toxicological research, the industry involved in food production and the food regulators on the status of the safety of certain food additives used in food industry, and assessment of the risk of certain newly identified contaminants in the human food chain.

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