

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



JOINT OFFICE: Viale delle Terme di Caracalla 00100 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

Agenda Item 16(h)

CX/FAC 03/33
December 2002

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS

Thirty-fifth Session

Arusha, Tanzania, 17 - 21 March 2003

PROPOSED DRAFT CODE OF PRACTICE FOR SOURCE DIRECTED MEASURES TO REDUCE DIOXIN AND DIOXIN LIKE PCB CONTAMINATION OF FOODS

Governments and international organizations wishing to submit comments on the following subject matter are invited to do so **no later than 31 January 2003** as follows: Netherlands Codex Contact Point, Ministry of Agriculture, Nature Management and Fisheries, P.O. Box 20401, 2500 E.K., The Hague, The Netherlands (Telefax: +31.70.378.6141; E-mail: info@codexalimentarius.nl, with a copy to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy (Telefax: +39.06.5705.4593; E-mail: Codex@fao.org).

BACKGROUND

1. The 34th Session of the Codex Committee on Food Additives (CCFAC) agreed to request comments on the proposed draft Code of Practice for Source Directed Measures to Reduce Dioxin and Dioxin-Like PCB Contamination of Foods. Furthermore it agreed that the drafting group led by Germany, with the assistance of Canada, Finland, Japan, the Netherlands, the United States and CEFIC would revise the Code of Practice on the basis of the comments submitted for circulation, additional comments and further consideration at the 35th Session of CCFAC.¹

2. Dioxins (PCDD/PCDF) together with a group of dioxin-like PCBs are pervasive in the environment. Although PCDD/PCDF and dioxin-like PCBs show similarities in their toxicological and chemical behaviour, their sources are different. PCBs of which dioxin-like PCBs are an integral part have been produced intentionally since the 1930's and used in a wide range of applications. They are still in use in existing closed systems and contained in solid matrices e.g. in sealing materials. PCDD/PCDF, in contrast, are formed as unwanted by-products especially in thermal processes like incinerations, combustions etc. Sources of emission, the emission routes and their distribution in the environment are therefore different for dioxins and PCBs.

3. This document deals with the major sources of dioxins and dioxin-like PCBs that can contaminate foods via different routes and shows the necessity of source directed measures to reduce levels of dioxin and dioxin-like PCBs in food and animal feed. Recent research has shown that the intake of dioxins and dioxin-like PCBs derived from foods has been decreasing for the last two decades.

4. More than 90 % of the dioxin exposure of man is related to food. Food of animal origin is the predominant route of human exposure to dioxins and dioxin-like PCBs (ca. 80 - 90 % of the total exposure). In most countries, the bulk of the dietary intake of dioxins and dioxin-like PCBs is due to the contamination of

¹ ALINORM 03/12, para. 156 and CL 2002/10-FAC, Part C 15

animal fats in some fish and fish products, meat and meat products, and milk and dairy products. Concerning the production animals including farmed fish the load of dioxins and dioxin-like PCBs is directly related to feed contamination. Thus an integrated approach to reduce these contaminants in the whole chain of food production should be established.

5. In order to reduce the contamination of food (and to reduce monitoring frequencies), control measures at the feed and compound feed level are necessary. These may involve developing Good Agricultural Practice, Good Animal Feeding Practice, and Good Manufacturing Practice guidance and measures to effectively reduce the content of dioxins and PCBs in feed such as:

- Setting limit/guidance values to exclude contaminated raw feed materials including materials from natural origin (e.g. clay and lime) entering the food chain; identification of contaminated feed and feed components.
- Identification of agricultural areas with unacceptable dioxin/PCB contamination due to local emission or accidents or illegal disposal of contaminated materials, and monitoring of finished feed and feed components derived from these areas.
- Identification of possibly contaminated feed and feed components.
- Monitoring compliance with these limit/guidance values and phase-out or decontamination of the raw materials.

6. In order to reduce dioxin and PCBs contamination of food, other than through animal feeding, additional measures may be necessary. These may include identifying highly contaminated areas (e.g. streams that could lead to dioxin-contaminated wild fish or game as well as free-ranged production animals) that may lead to dioxin contamination in foods. Source directed measures are an effective means to reduce local contamination of animal feed and foods.

7. Measures to limit/reduce the contamination from these sources may lie outside the responsibility of national food control authorities and the Codex. Therefore it is indispensable that national food control authorities and the Codex Alimentarius Commission (CAC) inform all relevant national and international institutions or organisations about potential or existing problems of food contamination and request them to take preventive measures.

8. Current sources of dioxins and PCBs entering the food supply include both new emissions and remobilisation of deposits in the environment. New emissions of PCDD/PCDF are preferentially via the air route due to their main sources. Emissions from environmental reservoirs (sediment/soil) will include the water path, plants and the food chain besides the air route. New emissions of PCBs, amongst them the dioxin-like congeners, primarily occur from leakages, accidental spillages and illegal waste disposal. New emissions via air through thermal processes and migration from sealants and other old matrix applications are of minor importance. The remobilisation of PCBs from environmental reservoirs are similar to the PCDD/PCDF case. The pathways to food may be quite different for the dioxins and PCBs, depending on the origin of the emissions. The measures to reduce PCBs-emission sources are directed to minimizing losses from existing equipments, prevention of accidents and better control of the disposal of PCBs-containing oils and wastes. Source-directed emission reduction of dioxins concentrate on the improvement of technologies of the thermal processes with dioxin formation as well as the application of destruction techniques such as end-of-pipe measure. However, for certain food, as for example wild fish, source-reduction measures will take many years to show effects because of the diffuse global background contamination.

9. Negotiations on an internationally binding instrument for implementing international measures regarding certain persistent organic substances were concluded in Johannesburg from 2 to 10 December 2000. The Stockholm Convention on Persistent Organic Pollutants (so-called POP Convention; http://www.pops.int/documents/convtext/convtext_en.pdf) was signed by almost 100 countries on 22 May 2001. At the heart of this Convention is Article 3, which deals with the ban on the production and use of 12 persistent organic pollutants, including PCBs. Article 5 of the Convention, which addresses measures for reducing and eliminating the release of unintentional by-products, including PCDD/PCDF, specifies requirements for new and existing sources. The Convention text provides for a continuous reduction with the goal of a long-term elimination of these pollutants. In order to achieve this ambitious goal, countries are to develop an action plan designed to identify, characterize and address the releases of dioxin and PCBs,

including the development and maintenance of source inventories and release estimates. They are also to employ the best-available techniques for new plants and facilities. In the case of existing plants, best-available techniques and best environmental practices are to be striven for.

10. The POP Convention enters into force when 50 ratification instruments have been deposited. 151 countries have signed and 22 countries have ratified the POP Convention so far. The Codex Alimentarius Commission calls on the remaining signatory states to ratify the POP Convention to enable entry into force as swiftly as possible. The Codex Alimentarius Commission proposes implementing specific action programmes within the framework of the POP Convention, that are geared towards a global reduction in dioxins and dioxin-like PCB in animal feed and food.

11. Furthermore national authorities should increase their efforts in the fields of information and training of industry and consumers, in order to promote behaviour that contributes to the prevention or reduction of the releases of dioxins and PCBs into the environment.

12. The dioxin and PCBs levels in final animal feeds and human foods should be routinely monitored.