

Study on dioxins in food

5 June 2018

Introduction

- **To further understand the local situation of dioxins and dioxin-like PCBs (DL-PCBs) in food**
 - **particularly foods of animal origin other than hairy drabs)**
 - **CFS will commence a study starting from June 2018**

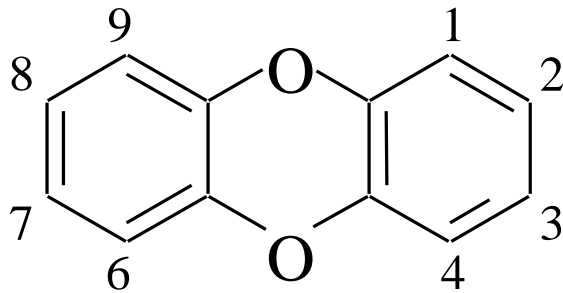


Background

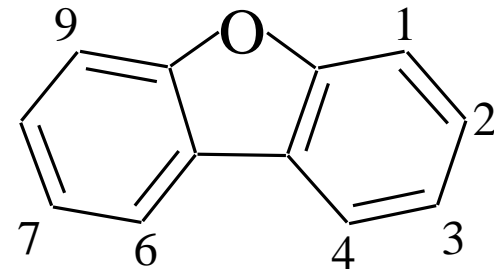


Nature of dioxins and DL-PCBs (1)

- **Dioxins**



PCDDs



PCDFs

- **DL-PCBs**

- **PCBs that exhibit toxicological properties similar to dioxins**



Nature of dioxins and DL-PCBs (2)

- **Persist and are ubiquitous in the environment**
- **Arise naturally or as by-products of industrial activities, e.g. metal smelting, molding, burning of chlorine containing organic chemicals such as plastics**
- **Fat soluble and not easily broken down**
- **Tend to accumulate in the food chain, mainly in the fatty tissue of animals**
- **Dietary intake is by far the most important exposure**

➤ **Mainly meat, milk, egg, seafood**



Health effects

- **Toxic effects mainly on a number of systems**
 - endocrine system, immune system and developing nervous system
- **Cancer-causing potentials**
 - The International Agency for Research on Cancer has classified dioxins and DL-PCBs as human carcinogens



Regulatory control in the international arena



Codex Alimentarius Commission (Codex)

- **At present, Codex has not set any MLs for dioxins in foods**
 - **taking into account the lack of technical expertise in many member nations for measuring dioxins and the expensive testing cost and other considerations**
- **A Code of Practice for the Prevention and Reduction of Dioxin and DL-PCB Contamination in Foods and Feeds adopted in 2006**
 - **aim to achieve long-term dioxin reductions by identifying and eliminating pathways from the environment to food supplies**



Other economies

- **Statutory limits for dioxins and DL-PCBs in specified foods have only been established in economies including the European Union (EU), Korea and Taiwan.**



Local situation



Regulatory control

- **Section 54 of the Public Health and Municipal Service Ordinance, Cap. 132 requires that foods for sale and are intended for human consumption should be fit for human consumption**
- **Currently, there is no specific statutory safety standard for dioxins and DL-PCBs in food in Hong Kong**



Food surveillance programme

- CFS of FEHD has been monitoring dioxins in foods as part of its routine food surveillance programme since 1999
- An action level of 1 pg WHO-TEQ (PCDD/F)/g sample has been adopted
- CFS established action levels of 3.5 pg TEQ/g food sample (wet weight) for dioxins and 6.5 pg TEQ/g food sample (wet weight) for dioxins and DL-PCBs respectively in edible portion of hairy crabs for the purpose of food surveillance in 2016

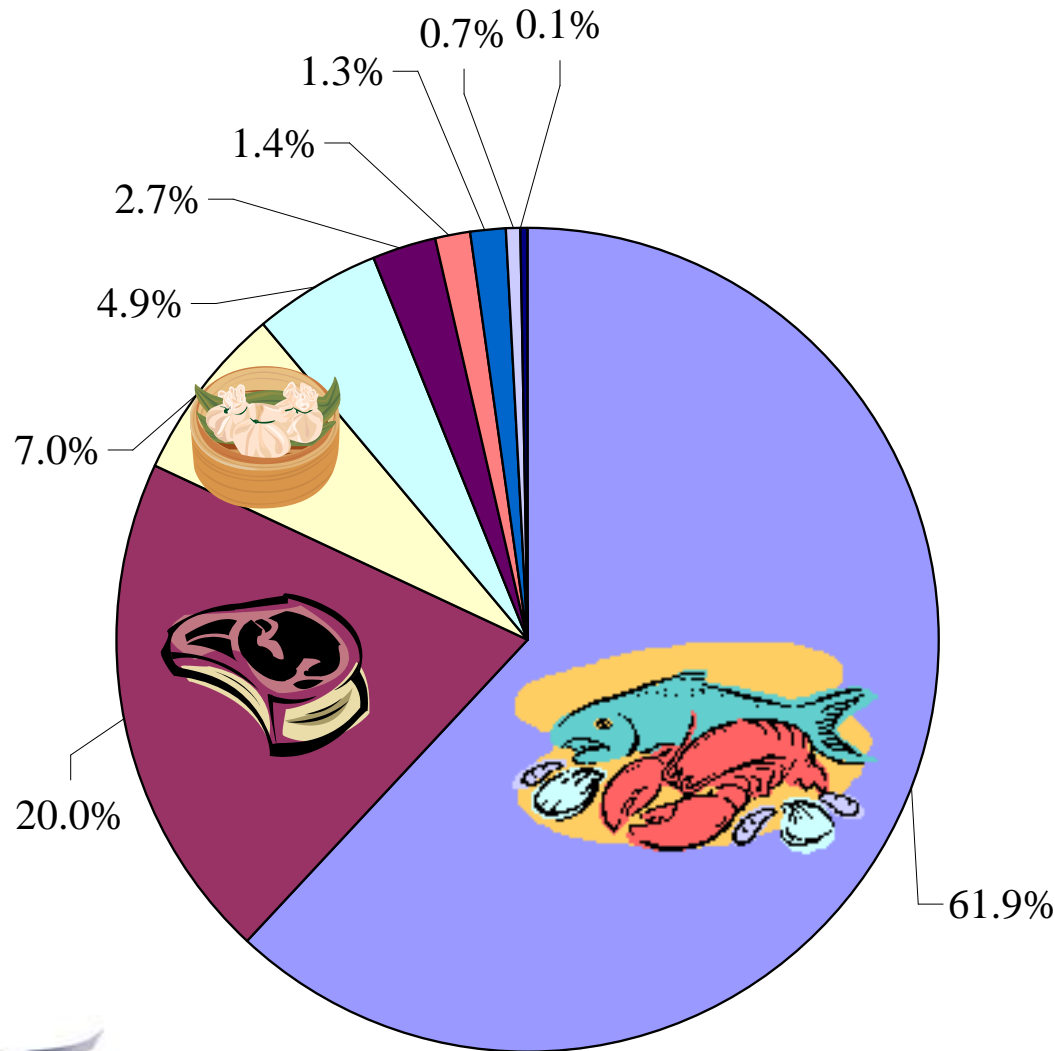


First Hong Kong Total Diet Study (1st HKTDS)

- **Dietary exposures to dioxins and DL-PCBs**
 - 21.92 and 59.65 pg toxic equivalent (TEQ)/kg bw/month for average and high consumer of the population
 - < provisional tolerable monthly intake (PTMI) of 70 pg/kg bw/month for PCDDs, PCDFs and DL-PCBs expressed as TEQ established by JECFA in 2001
 - general population was unlikely to experience major undesirable health effects of dioxins and DL-PCBs
 - having considered their carcinogenic risk, effort should be made to reduce the dietary exposure to dioxins and DL-PCBs of the population



Major food contributors



- 魚類和海產及其製品
Fish & seafood and their products
- 肉類、家禽和野味及其製品
Meat, poultry & game and their products
- 混合食品
Mixed dishes
- 穀物及穀物製品
Cereals and their products
- 不含酒精飲品
Beverages, non-alcoholic
- 蛋及蛋類製品
Eggs and their products
- 乳類製品
Dairy products
- 油脂類
Fats and oils
- 其他
Others



The current study



The current study

- Will span about 2 years with a testing of nearly 200 food samples.
- Dioxins and DL-PCBs in foods of animal origin including various aquatic animals except hairy crabs, edible offal of animal, edible fats, etc. would be analysed by the Government Laboratory.
- Under this study, CFS will conduct risk assessment for food samples detected with relatively high levels of dioxins and DL-PCBs and the management measures of test results depend on the conclusion of risk assessment.



~ End ~

