Perfluoroalkylated substances in food - EFSA Assessments

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PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

Presentation outline:

1. The European Food Safety Authority (EFSA)
2. THE EFSA Panel on Contaminants in the Food Chain (CONTAM Panel)
3. EFSA assessments (previous & current)

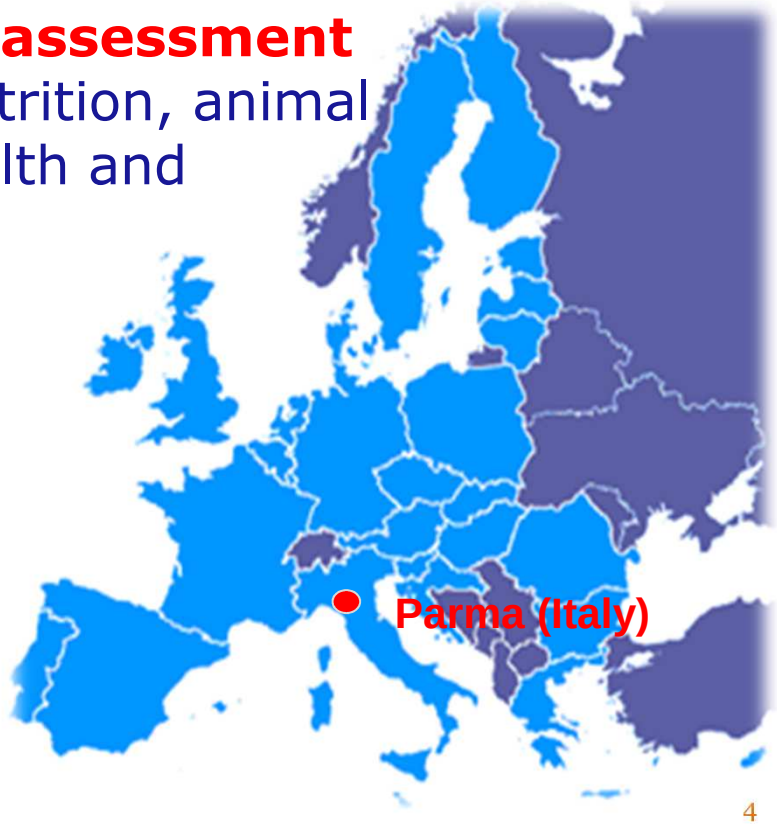
1. European Food Safety Authority

WHO IS EFSA ?

European Union's **scientific risk assessment body** on food and feed safety, nutrition, animal health and welfare, and plant health and protection

Provides **science based risk assessments** supporting risk management related to food/feed safety

Communicates all scientific outputs publicly



HOW DOES EFSA WORK?

European Commission

European Parliament

Member States

EFSA (“self mandate”)

Question?

Risk Assessment

10 SCIENTIFIC PANELS AND SCIENTIFIC COMMITTEE

1. **Animal health and welfare**
2. **Food additives and nutrient sources**
3. **Biological hazards**
4. **Food contact materials, enzymes, flavourings**
5. **Contaminants in the food chain**
6. **Feed additives**
7. **Genetically modified organisms**
8. **Nutrition**
9. **Plant health**
10. **Plant protection products**

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The Scientific Committee

2. EFSA Panel on Contaminants in the Food Chain – CONTAM Panel

CONTAM PANEL

Mandate of the CONTAM Panel

To deliver scientific opinions on **contaminants in food and feed**, associated areas and undesirable substances i.e. natural toxicants, mycotoxins and residues of non authorised substances not covered by other Panels

- **Chair:** Dr. Helle Knutsen (NO)
- **Vice-chairs:** Dr. Lutz Edler (DE) and Dr. Christiane Vleminckx (BE)
- 21 Panel members

CONTAM Panel: http://www.efsa.europa.eu/en/panels/contam

RISK ASSESSMENT ON CONTAMINANTS IN FOOD AND FEED

(1) HAZARD IDENTIFICATION

(2) HAZARD CHARACTERISATION

Toxicokinetic variability (ADME), acute/sub/chronic toxicity, human data, genotoxicity, mode/mechanism of action, dose-response for critical effect, derivation of a health based guidance value

(3) EXPOSURE ASSESSMENT

Occurrence data x Food consumption

EXPOSURE

Relevant food groups, adults and specific groups of the population, time trends

(4) RISK CHARACTERIZATION

Relates exposure to a chemical in a given population with toxicological effects (health based guidance value/margin of exposure), and concludes with the likelihood of adverse effects.

ROLES OF THE WG AND CONTAM PANEL

WG role

- The WG does the preparatory work in drafting the opinion
- The final draft opinion of the WG is submitted to the CONTAM Panel for possible adoption when the WG chair confirms that the Terms of Reference have been addressed
- The CONTAM Panel might ask the WG to revise the draft opinion

Panel role

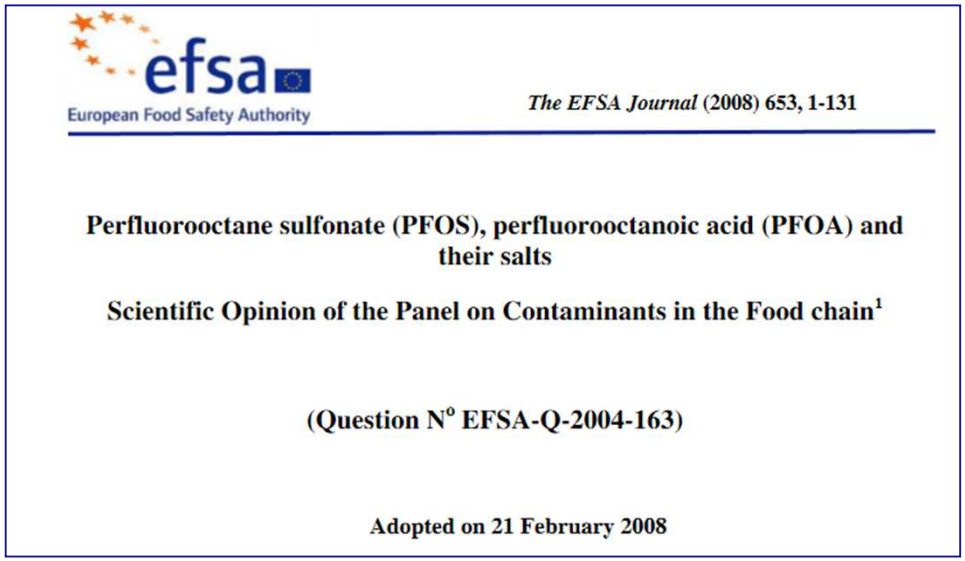
- During adoption the CONTAM Panel may revise the draft opinion
- The CONTAM Panel is always responsible for the adopted opinion
- The members of the WG, EFSA staff, hearing experts etc are acknowledged by the Panel on the first page of the opinion

3. EFSA Assessments

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

2008 - EFSA CONTAM PANEL Opinion on PFOS & PFOA

- In 2008, the EFSA Panel on Contaminants in the Food chain (CONTAM) published a risk assessment on PFOS, PFOA and their salts.



European Food Safety Authority

The EFSA Journal (2008) 653, 1-131

Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and their salts

Scientific Opinion of the Panel on Contaminants in the Food chain[1]

(Question N° EFSA-Q-2004-163)

Adopted on 21 February 2008

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

2008 - EFSA CONTAM PANEL Opinion on PFOS & PFOA

- Tolerable Daily Intake (TDI) established
  - for PFOS - 150 ng/kg b.w. per day
  - for PFOA - 1.5 µg/kg b.w. per day
- Only a limited exposure assessment was possible due to a lack of occurrence data in food
- The CONTAM Panel concluded that it is unlikely that adverse effects of PFOS or PFOA are occurring in the general population.
- The CONTAM Panel recommended, however, further monitoring of PFASs in food.

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

2010 - Commission Recommendation 2010/161/EC

- Following the 2008 CONTAM Panel opinion, in 2010 the European Commission adopted Commission Recommendation 2010/161/EC on the monitoring of perfluoroalkylated substances in food.
- Limit of quantification (LOQ) of 1 µg/kg for the monitoring of PFAS in food was recommended.
- Monitoring data following this recommendation are being collected by EFSA.

L 68/22 EN Official Journal of the European Union 18.3.2010

RECOMMENDATIONS

COMMISSION RECOMMENDATION

of 17 March 2010

on the monitoring of perfluoroalkylated substances in food

(Text with EEA relevance)

(2010/161/EU)

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

2012 - EFSA Scientific Report on PFASs in food – Occurrence & Dietary Exposure

- The occurrence data generated by the monitoring under Commission Recommendation 2010/161/EC, have been used in the EFSA Scientific Report on perfluoroalkylated substances in food - occurrence and dietary exposure, published in 2012.

European Food Safety Authority EFSA Journal 2012;10(6):2743

SCIENTIFIC REPORT OF EFSA

Perfluoroalkylated substances in food: occurrence and dietary exposure[1]

European Food Safety Authority[2, 3]

European Food Safety Authority (EFSA), Parma, Italy

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

2012 - EFSA Scientific Report Opinion on PFASs in food: Occurrence & Dietary Exposure

- Data on 27 PFASs from 13 European countries during the period 2006-2012 were included in the 2012 assessment.
- Dietary exposure estimates in the adult population for average and high consumers:
  - PFOS < 3.5 % of the TDI for average consumers and < 6.7 % of the TDI in high consumers.
  - PFOA < 0.3 % of the TDI for average consumers and < 0.5 % of the TDI in high consumers.
- Exposure in toddlers was 2 -3 times higher compared to adults.
- For other PFASs evaluated, daily dietary exposure was estimated to be in the low ng/kg body weight range.
- Report confirmed that dietary exposure to PFOS & PFOA is highly unlikely to exceed the health-based guidance values established by EFSA.

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

Current EFSA risk assessment on PFASs in Food

- September 2015 – EFSA received a request from the European Commission for a scientific opinion "*on the risks to human health related to the presence of PFASs in food, considering existing hazard assessments and available occurrence data*".
- The current opinion will update the previous 2008 assessment on PFOS and PFOA, and cover other PFASs.
- A CONTAM Panel Working Group (WG) was established to develop the draft opinion. The WG initiated its activities in March 2016.
- The deadline to adopt the opinion is July 2017.

PERFLUOROALKYLATED SUBSTANCES IN FOOD - EFSA ASSESSMENTS

Current EFSA risk assessment on PFASs in Food

The 27 PFAS substances previously covered in the 2012 Scientific Report are under review:

PFOS, PFOA, PFBA, PFPA, PFHxA, PFHpA, PFNA, PFDA, PFUnDA, PFDoDA, PFTrDA, PFTeDA, PFPeDA, PFHxDA, PFODA, PFBS, PFHxS, PFHpS, PFDS, 8:2 FTOH, 8:2 monoPAP, 8:2 diPAP, FASAs, EtFOSA, EtFOSE and FC-807.

Dietary exposure assessment:

Based on available occurrence data collected up to 2015, an exposure assessment will be possible for 15 PFAS substances: PFBA, PFPA, PFHxA, PFHpA, PFOA, PFNA, PFDA, PFUnDA, PFDoDA, PFTrDA, PFTeDA, PFBS, PFHxS, PFOS and FOSA.

Hazard identification & hazard characterisation:

Data on toxicokinetics, animal toxicity and human biomonitoring & epidemiology data are currently undergoing evaluation by the Working group.

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Thank you for your attention