

Survey of acrylamide and furan in UK retail products 2011-13

Area of research interest: [Chemical hazards in food and feed](#)

Study duration: 2011-11-01

Project code: FS142001

Conducted by: Premier Analytical Services/Ventress Technical Limited

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Background

This survey of process contaminants forms part of a current rolling programme due for completion in April 2014.

Process contaminants are chemical substances that are produced naturally in food during manufacturing or home-cooking. They are absent in the raw foods or raw materials used to make the food, and are only formed when components within the raw foods or materials undergo chemical changes during processing.

Acrylamide and furan may be formed at high temperatures during cooking, whether by manufacturers or consumers at home. Both substances have the potential to raise the risk of cancer, which will then increase with regular exposure to higher levels, over a lifetime.

Experts, including those from the Joint Food and Agriculture Organization (FAO) and the World Health Organization (WHO) Expert Committee on Food Additives (JEFCA), have concluded that current levels of dietary exposure to acrylamide and furan indicate a human health concern (FAO/WHO, 2010). The Agency considers that exposure to acrylamide and furan should follow the application of the ALARP principle and be reduced to as low as reasonably practicable.

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Research Approach

The 300 UK retail product samples represented the 10 food groups as specified in Commission Recommendation (EU) No. 2010/307 on the monitoring of acrylamide in food.

Acrylamide analysis was carried out on 294 samples taken from:

- Group 1 (French fries sold as ready to eat)
- Group 2 (Potato crisps)
- Group 3 (Pre-cooked French fries for home-cooking)
- Group 4 (Soft bread)
- Group 5 (Breakfast cereals)
- Group 6 (Biscuits and crackers)
- Group 7 (Coffee)
- Group 8 (baby food other than processed cereal-based)
- Group 9 (processed cereal baby food)
- Group 10 (others e.g. popcorn, cakes, pastries and chocolate)

Furan analysis was carried out on 113 samples taken from Groups 5, 6, 7, 8 and 10.

The acrylamide and furan results from this survey form part of a longer term surveillance programme. They will be sent to the European Food Safety Authority (EFSA) for collation with survey data from other Member States, trend analysis within the EU and, in the case of furan, a risk assessment.

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Results

The levels of acrylamide and furan obtained over the period of November 2011 to December 2012 do not increase concern about risk to human health. We have therefore not changed its advice to consumers.

Due to the nature of the survey and the limited dataset to date, it is important to be cautious when drawing conclusions from the reported data. It is important also to consider the variety of different ways that manufacturers may process similarly branded products resulting in different levels of process contaminants being found.

This 2011-12 phase of the survey gives a snapshot of the range of levels of acrylamide and furan that may be expected in retail products on sale in the UK during the related sampling period. It is therefore an indication of the levels that consumers may typically be exposed to in certain foods. However, the survey does not cover food prepared in the home, which has the potential to be a major contributor to overall exposure. As such, these results do not take into account the acrylamide or furan that consumers may be exposed to from home-cooking.

The [results from the acrylamide and furan survey](#) for the sampling period 2011-2012, contain a link to the interim report which has comprehensive Q&As on acrylamide and furan and should provide sufficient information regarding any questions that may arise concerning the 2011-2012 phase of the survey.

Research report

England, Northern Ireland and Wales

PDF

[View Survey of acrylamide and furan in UK retail products as PDF\(Open in a new window\)](#) (1.16 MB)