

Acrylamide - heated with a twist

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Some foods, such as potatoes, are **heated** in order to obtain a certain, desired, flavour and aroma. However, **during this heating (>120°C) also acrylamide can be formed**, in a process known as the Maillard reaction. This heating of foods can include frying, roasting or baking of the foods. Acrylamide is then formed as an unwanted by-product due to the **reaction between sugars** (mainly glucose and fructose) and the **amino acid asparagine**, which are both naturally present in foods. Acrylamide is thus considered a food contaminant, due to its unwanted presence in food.

The level of acrylamide can strongly vary in processed foods depending on the variety of the food product that was selected. For example, depending on the variety of a potato, the acrylamide level in fries can strongly differ.

In order to limit the presence of acrylamide in our food, the European Commission has elaborated a regulation providing support to food producers on how to limit the acrylamide presence in their food products.

Regulation

On the European level, mitigation measures and benchmarking levels have been established in the **regulation (EU) 2017/2158**, aiming to **reduce the presence of acrylamide** in food.

The mitigation measures aim to reduce the acrylamide content in food, without negatively affecting the quality of the food. Different measures are established for different types of foodstuff, such as products based on raw potatoes, dough based potato crisps, fine bakery wares, etc. Such measures include, among others, guidelines on the varieties to use, on the storage and transport conditions, on the applied processing, etc. More information can be found in the regulation (EU) 2017/2158.

In addition, **benchmark levels were established**, which are more specifically performance indicators. The aim of these levels is to verify the effectiveness of the above mentioned mitigation measures. In order to continuously improve the

reduction of acrylamide in food, the benchmark levels should be established **as low as reasonably possible and should be reviewed regularly**.

In case of exceedances of the benchmark levels, food business operators should review the applied mitigation measures and adjust the processes in case needed.

Due to the insufficient data that is available on the acrylamide level for some foods, the **recommendation (EU) 2019/1888** has been established by the European Commission. Providing a list of **additional foodstuffs for which a monitoring of the acrylamide content is recommended**, such as vegetable crisps/fries, roasted **cocoa** beans, coffee substitutes, ...

Analysis

Primoris has developed a **BELAC accredited** analysis method for the quantitative determination of acrylamide in a broad range of food matrices, using the **UPLC-MS/MS technology**. The method has been validated according to the requirements set by (EC) 2017/2158 and meets the requirements to evaluate obtained results with the applied benchmark levels.

Our method allows you to verify the compliance of your food with the benchmark levels and allows your company to collect data according to the recommendation (EU) 2019/1888.

More information?

If you would like to find out more information on this topic and the analyses we offer, please do not hesitate to contact our customer care service.

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