

## **Advice 19-2018 of the Scientific Committee of the FASFC consisting of the assessment of a derogation request for the frying of tortilla chips at 190°C**

### **Background & Terms of reference**

A derogation request of the temperature of oil or fat for frying tortilla chips was introduced by a food company. This company wishes to obtain an extension of the derogation issued by the FPS Public Health, Safety of the Food Chain and Environment in 2012 for a new 5-year period, for using a maximum temperature of 190°C (instead of 180°C, according to the legislation in force) to fry tortilla chips (corn).

The Scientific Committee has been requested to assess the updated dossier in terms of potential health risks with a view to considering a possible extension of the derogation granted in 2012.

### **Method**

The Scientific Committee has evaluated how the company manages its process of producing tortilla chips, based on the documents provided by the company itself and on a statistical analysis of the results of analysis of the acrylamide levels in the fried tortilla chips at 180°C (on the one hand) and at a temperature between 185°C and 188°C (on the other hand).

### **Results and conclusion**

The evaluation of the documents provided by the company shows that the company has a good control of its production process. The oils used are suitable for frying tortilla chips and the HACCP plan issued meets the requirements of the FPS Public Health, Safety of the Food Chain and Environment in 2012.

The statistical tests concluded that there is no significant influence of the increase in the frying temperature on the content of acrylamide in tortilla chips. However, the limited sample size at 180°C (n=11) reduced the power of these tests. As a result, the conclusion of each of these tests should be considered with caution.

Nevertheless, the descriptive statistical results show that certain samples of tortilla chips fried at a temperature between 185-188°C have an acrylamide content higher than the maximum content of acrylamide observed in the samples of tortilla chips fried at 180°C (i.e., higher than 230 µg/kg). These values, considered as "extreme values", indicate a possible increase in consumer's exposure to acrylamide as a result of the increase in the frying temperature. The probability of observing an acrylamide content higher than 290 µg/kg in fried tortilla chips at a temperature between 185-188°C is 5%.

The Scientific Committee has no fundamental objections that the FASFC responds positively to the company's request to prolong the derogation from the statutory maximum temperature for frying tortilla chips. However, the Scientific Committee has made several recommendations, in particular to consider the content of acrylamide at 300 µg/kg as a reference point in the HACCP plan of the company.

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