

**Check list for follow up on acrylamide levels according to Commission Recommendation (Document C/2010/9681)**  
**Version: 18.2.2011**

Sample No. \_\_\_\_\_

**1. Detailed product description:**

Brand name and product name:

.....

Product description and main ingredients according to label (e.g. type of bread, type of grain for cereal products, etc.)

.....

.....

Batch/lot No: .....Production date: .....BBE/Use By.....

**2. Analytical Information:**

Acrylamide level found:.....µg/kg Measurement uncertainty: +/- .....µg/kg

Method of analysis (tick one)

LC/MS       GC/MS      Accredited (ISO 17025): Yes  No

Sampling Point (tick one)

Single retail       Production site

**3. Production type (tick one):**

Restaurant (ready to eat incl. take-away/fast food outlet etc)

Large scale manufacture       Small scale manufacture (i.e. artisan/cottage industry)

Wholesaler

**4. Product type (tick one):**

***Potato products:***

French fries ready to eat      Potato crisps

Other potato products (please specify).....

For potato products please use Annex 1.

Please complete all questions relevant to the product. If information is not available please state why or n/a as appropriate.

**Cereal products**

- Soft bread                       Crisp bread                       Breakfast cereals (excl. Muesli)
- Biscuits, crackers, wafers and similar (excl. gingerbread)
- Other cereal products (please specify).....

For cereal products please use Annex 2.

**Coffee**

- Roasted coffee                       Instant (soluble) coffee                       Coffee substitutes
- Other coffee products (please specify).....

For coffee please use Annex 3.

**Products for infants and young children**

- Biscuits and rusks for infants and young children (please use Annex 2)
- Processed cereal based foods for infants and young children, (excl. biscuits and rusks)(please use Annex 2 )

Baby foods, other than processed cereal based baby foods (please use Annex 4).  
Relevant parts of Annex 1 should also be filled in if potatoes are a major ingredient.

**5. Knowledge and implementation of CIAA acrylamide toolbox**

Is food business operator (FBO) aware of the acrylamide toolbox?      Yes       No

Are tools for reduction of acrylamide proposed in the toolbox for this product?  
  
Yes       No

If yes, have the relevant processing steps susceptible for the formation of acrylamide been identified as part of a HACCP or similar system?  
  
Yes       No

Are they considered CCPs? If not, how else are they addressed and controlled in the context of a HACCP or similar system?

.....

.....

Please complete all questions relevant to the product. If information is not available please state why or n/a as appropriate.

Please specify which parts of the Toolbox have been implemented, if appropriate.

.....

If FBO aware of the tool box, but has not implemented yet, then why not?

- Cost                       Lack of expertise                       Effect on product
- Time                       Other, please specify:.....

Staff training programme                      Yes  No

Is the FBO following the ALARA principle for ongoing minimisation?

Yes  No                       If yes, how?.....

**6. Additional information:**

Does FBO have data to indicate the usual range of acrylamide for this product?

Yes  No

Is the finding within the normal range for the product (for this FBO)?

Yes  No

Normal range:..... µg/kg Mean.....µg/kg Measurement uncertainty: +/-  
.....µg/kg

Has the acrylamide indicative values been exceeded previously for this product?

Yes  No

Method of analysis (tick one)

- LC/MS                       GC/MS

Additional comments of the FBO that may be of interest as regards acrylamide reduction:

.....

.....

.....

.....

.....

## Annex 1 Potato Products

### Starting Ingredient:

Starting material fresh potatoes  Processed potato ingredient e.g. potato dough

Fresh pre-fabricates for French fries (cold storage 4 °C)  Frozen pre-fabricates for French fries

### Cooking method:

Oven cooked  Batch fried

Continuously fried (crisps)  Other  specify.....

### Preparation/Production details:

Potato variety ..... Fresh harvested  Stored

Time/temperature of processing: Please fill in the time/temperature recording sheet as provided in Annex 5.

Long term storage temperatures for raw materials (potatoes).....°C  
(if not known please give supplier details if possible.....)

Test for reducing sugar (fructose and glucose) content in raw materials (potatoes)

Yes  No  Not relevant

If yes, reducing sugar content:.....g/kg fresh weight

Pre-treatment like blanching, soaking, par frying, etc.?

Yes  No  Not relevant  Specify.....

Focus on colour of product?

Yes  Colour Test (result/unit)...../..... No   
Not relevant

Is there a focus on product thickness? What cut size (fries)?

Yes  No  Thin / Medium/ Thick (circle) Not relevant

Use of enzymes to reduce acrylamide (asparaginase)?

Yes  No  If not, why? .....

Focus on final moisture content?

Yes  No  Not relevant

Additional additives / processing aids?

Calcium salts  Citric acid  Other  specify.....

Removal of fines (fine pieces of potato) before or after frying?

Please complete all questions relevant to the product. If information is not available please state why or n/a as appropriate.

Yes  No  Not relevant

Known level of acrylamide already present in major ingredients? Yes  No

If Yes, what ingredient?.....level?.....\_\_\_\_\_µg/kg

Substitute ingredients (please list with %).....

If relevant, please give information on:

Portion size cooked .....

Fryer Power / Size .....

### Conclusion

Will adjustments in the recipe or production be investigated, and implemented where appropriate, with the aim to reduce formation of acrylamide?

Yes  No

If yes, which:.....

If not, reasons:.....

## Annex 2 Cereal Products

### Preparation/Production details:

#### Cooking Process

Oven cooked (batch)  Oven Cooked (continuous)   
 Other  Specify.....

Time/temperature of processing: Please fill in the time/temperature recording sheet as provided in Annex 5.

Are reducing sugar(s) (fructose and glucose) used in the recipe?

Yes  No  Not relevant

If yes, reducing sugar content:.....g/kg

Which cereal grain is mainly used?:

Wheat  Oat  Maize  Barley  Rye  Rice  Other

Variety/ies?.....

Use of wholemeal flour?

Yes  No  Not relevant

Fibre content as % of total ingredients .....

Whole grains used as % of total ingredients.....

Known level of acrylamide already present in major ingredients? Yes  No

If Yes, what ingredient?.....level?.....µg/kg

Use of raising agent?.

No  Ammonium bicarbonate  Other  Specify.....

Focus on use of fructose?

Yes  No  Not relevant

Focus on product thickness?

Yes  No  Not relevant

Use of enzymes to reduce acrylamide (asparaginase)?

Yes  No  If not, why? .....

Focus on final moisture content?

Please complete all questions relevant to the product. If information is not available please state why or n/a as appropriate.

Yes  No  Not relevant

Focus on ingredients, e.g. roasted almonds, etc?

Yes  No  Not relevant

Focus on the degree of baking?

Yes  No  Not relevant  Comment?.....

Fermentation step in process?

Yes  No

Additional additives / processing aids?

Calcium salts  Citric acid  Other  (specify).....

### Conclusion

Will adjustments in the recipe or production be investigated, and implemented where appropriate, with the aim to reduce formation of acrylamide?

Yes  No

If yes, which:.....

If not, reasons:.....

## Annex 3 Coffee

### Preparation/Production details:

Degree of roasting: Light  Medium  Dark   
 Sold as: Beans  Ground  Instant   
 Decaffeinated: Yes  No   
 Grind size: Coarse  Medium  Fine

Arabica/Robusta...../.....%

Time/temperature of processing: Please fill in the time/temperature recording sheet as provided in Annex 5.

Age of analysed sample: .....(days/months)

Long term storage temperatures for raw materials (beans).....°C (if known)

Pre-treatment like blanching, soaking, etc.

Yes  No  Not relevant  Specify.....

Use of enzymes to reduce acrylamide (asparaginase)

Yes  No  If not, why? .....

Other control measure?.....

### Conclusion

Will adjustments in the recipe or production be investigated, and implemented where appropriate, with the aim to reduce formation of acrylamide?

Yes  No

If yes, which:.....

If not, reasons:.....



## Annex 4 Infant and young children

*For biscuits and rusks for infants and young children as well as for processed cereal based foods for infants and young children, please use Annex 2.*

*For other baby foods, please use this Annex 4. If potatoes are a major ingredient please also fill in relevant parts of Annex 1.*

### Preparation/Production details:

Time/temperature of processing: Please fill in the time/temperature recording sheet as provided in Annex 5.

Main ingredients of baby food in decreasing order of importance:

.....

Known level of acrylamide already present in major ingredients? Yes  No

If Yes, what ingredient?.....level?.....\_\_\_\_\_µg/kg

### Conclusion

Will adjustments in the recipe or production be investigated, and implemented where appropriate, with the aim to reduce formation of acrylamide?

Yes  No

If yes, which:.....

If not, reasons:.....

### Annex 5: Time/Temperature recording sheet

Please complete either of the following tables as relevant for the product.

Heat Treatment Step (short process description)	Typical Residence Time or cooking time (mins)	Operating Temperature Range (air, oil, etc) (tick all relevant zones for the process/product)					
		≤120 °C	121-150 °C	150-174 °C	175-190 °C	190-220 °C	>220 °C
1.							
2.							
3.							
4.							
5.							

If the product is produced using a flow cook fry process and it is considered by the FBO that the following format is more relevant and they would prefer to give information in this way then please complete instead of the table above. You may complete either or both accordingly.

**in-feed oil temperature .....°C    out-feed oil temperature .....°C**

**Exposure time.....minutes**

Please complete all questions relevant to the product. If information is not available please state why or n/a as appropriate.