WHAT IS ACRYLAMIDE?

It is important not to over-cook certain foods. Over-cooking or burning certain foods means that these foods can be higher in acrylamide.

Acrylamide is a chemical that is formed naturally when some foods; containing asparagine (an amino acid) and sugars; are cooked at high temperatures (above 120ºC) such as by frying, roasting, baking, grilling and toasting.

Legislation is in place to reduce acrylamide levels in food, as it is a probable carcinogen in humans.

What foods?

If you cook the following types of foods, you should put in place practical steps to reduce acrylamide.				
Potato products such as chips, French fries, other deep cut (deep-fried) and sliced potato crisps, including potatoes that are deep fried and finished in the oven.	**Bread products** such as loaves, bread rolls and baguettes, toast and toasted sandwiches.	**Sweet bakery products** such as cookies, biscuits, scones, gingerbread, wafers, crumpets.	**Savoury bakery products** such as crackers, crisp bread, breadsticks.	**Fried products** such as doughnuts, fried bread, battered products.

The tables below advise on what to do when **purchasing, receipting and storing** these types of products.

Safety point	Why?	Tick if you do this
When buying raw potatoes ask your supplier for advice on the best variety to use for the type of cooking you are doing.	Certain potato varieties are lower in asparagine (an amino acid) and natural sugars and using these will help to keep acrylamide levels lower.	
Store raw, unpeeled potatoes that are going to be fried, baked or roasted in a cool, dark place, above 6ºC. Do not store in the fridge.	Potatoes stored in the fridge can form more sugars, which can mean higher levels of acrylamide when the food is cooked.	
When buying products from a supplier tell them you will not accept over-cooked or burnt products.	Check deliveries and reject products that are over-cooked or burnt as these could have higher levels of acrylamide.	

The tables below advise on what to do when **preparing** these types of products.

Safety point	Why?	Tick if you do this
Cut foods, such as potatoes, to similar sizes.	This will help all foods to cook more evenly and help reduce acrylamide formation.	
Where possible, when making *home-made chips, or cut potatoes that are going to be deep-fried*, follow one of these steps as each remove excess sugars and help to keep acrylamide levels lower:		
Soak (for 30-180 mins) in cold water after cutting. Rinse with clean water and drain.		
Or – Soak for a few minutes in warm water. Rinse with clean water and drain.		
Or – Blanch potatoes before cooking.		
Where possible, and when the preparation process allows, when making *bread or dough products* follow this step:		
Extend the yeast fermentation time.	This will help to keep acrylamide levels lower in the finished product.	

The tables below advise on what to do when **cooking** these types of products.

Cook foods to a ***golden yellow, or lighter colour***. Manufacturers will have designed cooking methods best suited to their products.

Safety point	Why?	Tick if you do this
Follow manufacturers' cooking instructions as appropriate.	The manufacturer has tried and tested cooking methods specifically for its products.	
Deep-fry potato products, such as chips and French fries to a golden yellow, or lighter colour. The oil temperature for cooking should ideally be below 175ºC.	Cooking to a golden yellow, or lighter colour, and deep-frying at lower temperatures will keep acrylamide levels low.	
When deep-frying take care not to over-fill baskets. Fill the basket only half way.	This will help the foods to cook more evenly and help reduced acrylamide formation.	
Keep cooking oil quality at its best by skimming often to remove crumbs and food particles left in the oil.	This will prevent crumbs and food particles left in the oil from over-cooking; preserving the oil quality and keeping acrylamide levels low.	
Filter, change oils and clean cooking equipment as often as needed or as recommended by suppliers.	Reusing old, dirty oil and cooking equipment will increase the levels of acrylamide in deep-fried foods.	
When baking bread and sweet or savoury bakery products cook to a golden yellow, or lighter colour. Use the lowest oven temperature possible for the food.	Baking foods at lower oven temperature to a golden yellow, or lighter colour will reduce acrylamide levels.	
When cooking foods such as toast and toasted sandwiches do not over-toast or burn.	Cooking bread to a golden colour, or lighter, will help to keep acrylamide levels lower.	
Where possible, set a timer to mark the cooking time. This could be built-in or you can use a separate timer.	This will remind you to cook foods for the right time and help keep acrylamide levels low.	

Colour charts
Some suppliers have produced colour charts to show what colour is the best for certain foods to keep acrylamide levels low. You can ask if your supplier has these available. You do not have to use colour charts, but they can be useful for training your staff. Colour charts for fries can be found here and for rolls here.

What to do if things go wrong?	How to stop this happening?
• Dispose of foods that are over-cooked or burnt.	• Review your cooking method. • Lower the cooking temperature or use different equipment. • Re-train staff on the correct method. • Improve staff supervision. • Repair or replace equipment that is broken or defective. • Write down what went wrong and what you did about it in your diary.