

Making Jam and Similar Products

The guidance below is not definitive and should be regarded as an introduction to the topic. Further research should be made by the individual on the legal requirements for their business activities and needs. It is ultimately the food business operator's responsibility to ensure that their food business activities comply with all the relevant legislation.

General

When running a commercial food business, whether it be from your domestic kitchen or a commercial unit, you will need to follow and comply with all relevant food law.

Food Safety Management System

You must look at the different stages of production which will include but may not be limited to the following:

1. Purchase and intake of ingredients
2. Storage
3. Washing
4. Preparation
5. Recipe control
6. Cooking
7. Jar preparation
8. Filling
9. Sealing cooling
10. Labelling
11. Storage

At each stage, you must consider what the potential hazards are, whether or not the potential hazards are significant to be critical to ensuring food safety, and if so, what preventative measures can be taken to prevent the hazard from occurring.

Written procedures and monitoring records, as part of your documented hazard analysis and critical control point (HACCP) food safety management system, will also form part of any due diligence defence you have as a food business operator. A "due diligence defence" means that you have taken all reasonable precautions and exercised all due diligence to prevent the incident from happening and is recognised in food law.

Some Hazards to Consider

Clostridium botulinum

Clostridium botulinum is a relatively common bacteria found naturally in the environment such as in soil, rivers etc. The bacteria is not dangerous in itself, however, under the right conditions, it can produce a highly dangerous toxin which, when, even only a very small amount is ingested, can lead to illness, paralysis and

death. The toxins of this species of bacteria can produce are some of the most powerful known to science and the illness is known as Botulism.

Fortunately, in the UK, cases of food-borne botulism are very rare mainly due to our high standards of food hygiene. However, you must be aware that there is an increased risk when preserving and canning foods. This is because the conditions which are created during these processes are favourable to toxin formation. For instance, *Clostridium botulinum* will grow in conditions with very little or no air (anaerobic), a low pH, (more acidic), and low available water.

You will therefore need to ensure that you have robust enough preventative controls in place to prevent bacterial growth and toxin formation. One way to achieve this is to ensure that the product is heated to a minimum of 90°C for at least 10 minutes, or to ensure that the pH of the product is below 4.6, or a water activity of less than 0.97 or combination of these

Moulds

Moulds and yeasts can also grow if the jars and/or lids are not clean or if the product is not sealed quickly after filling as growth can occur once the container is opened and exposed to air again. Your method for the disinfection of your jars is important to consider as is your method of post sterilisation handling. Jars must be fully dry before filling.

Physical Contamination

Glass fragments from cracked, chipped or broken jars can cause physical contamination of the end product and cause a serious risk of injury to the person consuming.

Foreign objects harvested with the fruits or vegetables you are using can include stones, soil, and insects such as flies, slugs larvae etc.

What should I do to control the hazards?

- Wash your hands before preparing or handling food.
- Ensure chopping boards, pans and utensils are clean and kept in good condition.
- Use clean disinfected jars/bottles and invert them after disinfection until you are ready to fill them, to prevent foreign body contamination. Disinfect them by placing them in the oven (10 minutes at gas mark 3/160°C), by passing them through the hot cycle of the dishwasher or submerging them in hot water (above 90°C) for 10 minutes. The jars or bottles must be fully dry before use.
- Store products in a cool, dry environment.
- Unless you have undertaken independent analysis it is difficult to determine an appropriate shelf life for your product. Some recipes give an indication of

shelf life but this may not have been assessed by a microbiological laboratory. Never exceed the shelf life and it would be sensible to give your products a shorter shelf life than stated unless you have used an accredited microbiological laboratory to undertake a shelf life study.

- Always stick to standard recipes and cooking methods; the amount of vinegar and/or sugar is essential for safety. For example, ensure weights of ingredients are known and follow instructions on how long to boil/simmer each batch.
- Keep records of each batch produced. This would typically include the food name, date of production, number of jars/bottles produced, use by or best before date, lot or batch number, records of any temperatures or pH measurements. If you supply other businesses, you must be able to identify what you have supplied them with in case you need to recall the food in the event of a problem.

For jams, pickles and chutney

- Thoroughly wash, dry and where necessary peel fresh fruit, vegetables and herbs.
- Ensure lids/stoppers are clean and tight fitting but do not re-use lids. Lids must be put on immediately after bottling, whilst the product is still hot for the vacuum seal to be formed.
- Use a jam thermometer to ensure the jam is heated to the correct temperature (setting point). Jam sets around 105°C. Heating to this temperature will destroy a significant number of harmful bacteria. The setting point of low sugar jams will vary.
- For pickles and chutneys, it is important to ensure the pH is 4.5 or lower and/or the water activity is below 0.9 throughout the product during the shelf-life to control the risk of *C. botulinum*. If this cannot be guaranteed, products should be stored in a refrigerator, even before they are opened and the shelf life must be a maximum of 10 days.

Extra controls for flavoured oils

- When making oils, use dried herbs, spices and vegetables to ensure that moisture levels are kept to a minimum or thoroughly dry ingredients well before adding. The bottles used should be completely dry before use to store flavoured oils.
- Ensure that the pH is consistently pH 4.5 or lower throughout the product including the added ingredients. Acids including phosphoric, citric or acetic acid can be added to oils to help reduce the pH. pH meters should be used. Litmus paper can offer a guide but is not very accurate. **This is a critical control point and must be followed to protect consumer safety.**

- The maximum shelf life of the product should be 10 days. It can be kept for longer if the pH is shown to be 4.5 or lower for the duration of its shelf-life. This must be determined by independent analysis.

Labelling

Jam, jelly and marmalade

The Jam and Similar Product Regulations 2003 give reserved descriptions which form the 'name of the food' for jam, jelly and marmalade and set minimum amounts of fruit, see below.

Olive Oils

There are marketing standards with additional labelling requirements for the different types of olive oils. You should contact your local trading standards office for more details.

Weight and Volume Marking

A metric weight or volume must be indicated on each pack and this must be in the same field of vision as the name of the food and any use by or best before date. The quantity shown must be the net weight (the weight of the food without the weight of the container, lid and label). An imperial equivalent can also be given but the metric indication must be more prominent and for most packs must be at least 4mm high. Jam, jelly and marmalade are no longer required to be packed in prescribed quantities.

Containers can be filled either to the minimum system where each pack is at or above the declared weight, or to the average weight. For minimum weight each container must be individually weighed on a scale that has been tested and approved for trade use. If you wish to pack for average weight you will need to contact your local trading standards office for further information.

Jam and Similar Products

Labelling and Composition

The labelling and composition of jam and similar products is controlled by legislation. Jam, marmalade and certain other names are 'reserved descriptions' that can only be used to describe a product if it meets the compositional requirements of the Jam and Similar Products (Scotland) Regulations 2004.

There are general labelling requirements for these products as well as requirements for specific labelling stating the fruit and sugar content.

This guidance relates to the labelling of prepacked products.

Jam is a reserved description; you may only call your product 'jam' if it meets the compositional requirements of the Regulations, which state that the product must contain the following amounts of fruit (from pulp, puree or both) per kilogram of finished product:

- 250 g - redcurrants, blackcurrants, rosehips, rowanberries, sea buckthorns or quinces
- 150 g - ginger
- 160 g - cashew apples
- 60 g - passion fruit
- 350 g - any other fruit

In all cases, where the product contains multiple types of fruit you should use the combined weight of fruit.

Marmalade is also a reserved description and is required to contain not less than 200 g of citrus fruit (from pulp, puree, rind, juice or any combination) per kilogram of the finished product; at least 75 g of this must come from the 'endocarp' (in citrus fruits this is the main part of the fruit, the part that is usually eaten). Marmalade can only be made from citrus fruits.

Other reserved descriptions include 'extra jam', 'jelly' and 'extra jelly'; in each case the minimum amount of fruit per kilogram of finished product is as follows:

Extra jam:

- 350 g - redcurrants, blackcurrants, rosehips, rowanberries, sea buckthorns or quinces
- 250 g - ginger
- 230 g - cashew apples
- 80 g - passion fruit
- 450 g - any other fruit

Jelly:

- 250 g - redcurrants, blackcurrants, rosehips, rowanberries, sea buckthorns or quinces
- 150 g - ginger
- 160 g - cashew apples
- 60 g - passion fruit
- 350 g - any other fruit
- Extra jelly:
 - 350 g - redcurrants, blackcurrants, rosehips, rowanberries, sea buckthorns or quinces
 - 250 g - ginger
 - 230 g - cashew apples
 - 80 g - passion fruit
 - 450 g - any other fruit

Jelly marmalade is the same as marmalade, but contains no insoluble matter (nothing that won't dissolve), except possibly for small quantities of finely sliced peel.

The Regulations forbid the use of the following fruit in the manufacture of extra jam and extra jelly:

- apples
- pears
- clingstone plums
- melons
- watermelons
- grapes
- pumpkins
- cucumbers
- tomatoes

All these products must have soluble solids (solids that can be dissolved in the product) content of the finished product of not less than 60%, as determined by a refractometer at 20 °C (a refractometer is a piece of equipment on to which a small quantity of jam is smeared so the sugar content can be measured and are easily available at a reasonable price).

Additional ingredients

If you want to describe your product using any of the reserved descriptions above, then you can only use the additional ingredients in the list below. You can still manufacture products using ingredients that are not on the list but you cannot then describe them as jam, marmalade, etc; instead you would need to use descriptions such as 'preserve' or 'conserve'.

The permitted additional ingredients are:

- honey - in all products, as a total or partial substitute for sugars
- fruit juice - only in jam
- citrus fruit juice - in products obtained from other types of fruit: only in jam, extra jam, jelly and extra jelly
- red fruit juices - only in jam and extra jam manufactured from rosehips, strawberries, raspberries, gooseberries, redcurrants, plums and rhubarb
- red beetroot juice - only in jam and jelly manufactured from strawberries, raspberries, gooseberries, redcurrants and plums
- essential oils of citrus fruits - only in marmalade and jelly marmalade
- edible oils and fats as anti-foaming agents - in all products
- liquid pectin - in all products
- citrus peel - in jam, extra jam, jelly and extra jelly
- leaves of *Pelargonium odoratissimum* (apple geranium / apple pelargonium) - in jam, extra jam, jelly and extra jelly, where they are made from quinces
- spirits, wine and liqueur wine, nuts, aromatic herbs, spices, vanilla and vanilla extracts - in all products
- vanilline - in all products
- permitted food additives (A list of permitted food additives can be found on the Food Standards Agency website www.food.gov.uk).

Permitted treatments

If you want to describe your product using any of the reserved descriptions above then you can only use certain treatments on your product.

Fruit pulp, fruit puree and aqueous extract of fruit (water in which all the soluble elements of the fruit have been dissolved) may only be treated in the following ways:

- heated, chilled or frozen
- freeze-dried
- concentrated, to the extent that is technically possible

Sulphites (sulphur dioxide - E220) or its salts (E221, E222, E223, E224, E226 and E227) may be used as an aid to manufacture, provided that the maximum sulphur dioxide content is not exceeded (10 mg/kg in relation to jams, jellies and marmalades made with sulphited fruits). This does not apply to extra jam or extra jelly.

Apricots and plums for jam can be subjected to other drying processes but cannot be freeze-dried.

Citrus peel can be preserved in brine.

In the same way as for additional ingredients above, you can apply other treatments to your products than those listed, but if you do so you cannot then describe them using a reserved description.

Additional reserved descriptions

X curd:

A curd is an emulsion (a mix of two liquids that do not dissolve) of edible fat and/or oil, sugar, whole egg and/or egg yolk, and any combination of fruit, fruit pulp, fruit purée, fruit juice, aqueous extract of fruit or essential oils of fruit, with or without other edible ingredients. In the description, X is the name of the fruit (or fruits) used to make the curd.

- the quantity of fat and oil used for every kilogram of the finished product must be not less than 40 g
- the quantity of whole and egg yolk used for every kilogram of finished product must be not less than 6.5 g of egg yolk solids
- the quantity of fruit, fruit pulp, fruit puree, fruit juice, aqueous extract of fruit and essential oil of fruit must be sufficient to characterise the finished product

Y flavour curd:

A flavour curd is the same as a curd but the fruit has been replaced with fruit flavouring. In the description, Y is the name of the flavouring.

- the quantity of fat and oil used for every kilogram of the finished product must be not less than 40 g
- the quantity of whole and egg yolk used for every kilogram of finished product must be not less than 6.5 g of egg yolk solids
- the quantity of flavouring material used must be sufficient to characterise the product

Mincemeat:

Mincemeat is a mixture of sweetening agents, vine fruits (raspberries, gooseberries, etc), citrus peel, suet or equivalent fat and vinegar or acetic acid, with or without other edible ingredients.

- the quantity of vine fruits and citrus peel used for every kilogram of finished product must not be less than 300 g, of which not less than 200 g consists of vine fruits
- the quantity of suet or equivalent fat used for every kilogram of the finished product must not be less than 25 g

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Curds and mincemeats are required to have a soluble solids content of 65% or more, as determined by a refractometer at 20 °C.

Products described as 'reduced sugar' must have a soluble solids content of not less than 25% and not more than 50%.

Compositional Labelling of Jam and Similar Products

NAME

If your product has been manufactured to meet the compositional requirements of a reserved description, then you must use the reserved description in the name of the food.

The name of the fruit(s) used in jam, marmalade, etc must be included in the product name ('Strawberry Jam', 'Seville Orange Marmalade', etc).

If the product is made from more than one type of fruit, each type must be given in the name, and they must appear in descending order by weight of fruit (flesh, pulp, juice, etc combined) used in the product.

If a product is made from three or more types of fruit you can instead describe it as 'Mixed Fruit Jam', 'Three Fruit Marmalade', etc.

In the case of curd, X (see above) should be replaced with the name of the fruit(s), or the words 'mixed fruit', or the number of fruits used in its manufacture (for example, 'Three Fruit Curd').

In the case of flavour curd, Y (see above) should be replaced with the name of the fruit flavour or the words 'mixed fruit'.

FRUIT AND SUGAR CONTENT

This is not required for curds, flavour curds or mincemeat.

The label for jams and similar products must include the two following statements: 'prepared with X g fruit per 100 g', where X is the amount of fruit used in 100 g of finished product

'total sugar content: X g per 100 g', where X is the amount of sugar in 100 g of finished product determined by a refractometer at 20 °C

Where the product is made from two or more types of fruit you should specify the amounts of all of the fruits - for example, 'Raspberry and Apple Jam made with 45 g of raspberry and 35 g of apple per 100 g of finished product'.

If you are describing the product as 'mixed fruit', 'three fruit', etc you do not need to break it down in this way.

Use of the term 'organic'

For any product being made from organic ingredients and intended to be marketed as an organic product, the name of the food should still be 'X Jam made from organically produced X'. An appropriate organic certification mark must be included on the label. Registration with an appropriate United Kingdom certification body is also required.

Use of prescribed names for other products

The use of the terms 'jam' and 'jelly' are permitted where in use as a customary name - for example, 'Jelly Babies', 'Mint Jelly', 'Table Jelly' - and where this will not mislead the consumer.

The terms 'conserve', 'preserve', and 'fruit spread' are not reserved descriptions and products with these names would not be required to meet specific compositional standards; therefore products described in this manner could use additional ingredients not on the list, contain different proportions of fruit, and so on.

GENERAL REQUIREMENTS FOR PREPACKED FOOD

The compositional labelling requirements above are in addition to the mandatory food labelling requirements of Regulation No 1169/2011 on the provision of food information to consumers. Mandatory requirements for the labelling of prepacked food are:

1. the name of the food
2. a list of ingredients
3. the quantity of certain ingredients or categories of ingredients (QUID)
4. indication of specified allergenic ingredients

5. 'use by' date or an indication of minimum durability (in the form 'best before' or 'best before end') and a lot or batch number (unless the date is sufficient to specify this)
6. any special storage conditions or conditions for use
7. name and address of the responsible food business operator
8. net quantity
9. place of origin, if not stating it could mislead
10. any instructions that are necessary to use the food
11. a nutrition information declaration consisting of the energy value and the amounts of fat, saturates, carbohydrate, sugars, protein and salt

Please refer to the separate labelling guidance for prepacked foods.

Resources

Some additional online resources which may also be of assistance:

[Botulism - NHS \(www.nhs.uk\)](http://www.nhs.uk)

[Food allergy regulations for business | Food Standards Scotland | Food Standards Scotland](#)

[Business Information - Food Hygiene Information Scheme | Food Standards Scotland | Food Standards Scotland](#)

<https://www.foodstandards.gov.scot/business-and-industry/safety-and-regulation/fhis-info-for-businesses>

[Business guidance | Food Standards Agency](#)

[CookSafe Manual | Food Standards Scotland](#)

[Guidance on “Free-From” allergen claims | The Food & Drink Federation \(fdf.org.uk\)](#)

[Gluten free and the law - Coeliac UK](#)

Key legislation

- [Food Safety Act 1990](#)
- [The Food Hygiene \(Scotland\) Regulations 2006 \(legislation.gov.uk\)](#)
- [Regulation \(EC\) No 853/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs \(legislation.gov.uk\)](#)
- [Regulation \(EC\) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety \(legislation.gov.uk\)](#)
- [The Jam and Similar Products \(Scotland\) Amendment Regulations 1990 \(legislation.gov.uk\)](#)

- [Food \(Lot Marking\) Regulations 1996](#)
- [Regulation \(EU\) No 1169/2011](#) *on the provision of food information to consumers*
- [The Food Information \(Scotland\) Regulations 2014 \(legislation.gov.uk\)](#)

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