

Non food poisoning illness

Some microorganisms cause food borne illness which is not classified as food poisoning because of other symptoms they cause

Norovirus

From leafy greens such as lettuce, fresh fruits and foods that are not washed before eating
Causes Diarrhoea, vomiting, fever, body aches, headaches

Toxoplasmosis

From infected meat (also cat poo but you wouldn't eat that)

Causes fever, muscle pain, sore throat, tiredness

Long term the Toxoplasma parasite can invade the eyes causing blindness . Damages unborn baby

Chemicals

Hormones

Animals can be injected with growth hormones and antibiotics to give larger muscle development and higher milk production Oestrogens could have effects on reproductive system (male and female) possibly cancers.

BANNED- except for the USA

Pesticides

Crops are sprayed with herbicides and pesticides to prevent being eaten by insects.

All crops in EU tested for pesticide residues. Higher levels of exposure could cause nerve damage, damage to foetus, dermatitis, possibly cancers. dizziness, headaches, nausea and vomiting in people who are sensitive. NONE IN ORGANIC

Fertilizer

Plants are fertilized to keep the soil fertile and to give a higher yield of crops for the farmer. NOT IN ORGANIC FERTILIZERS

Nitrates, phosphates and potassium are all toxic to humans in higher amounts, pollution of water table, effects on other organisms eg fish that could then be eaten by humans

packaging

During storage, chemicals can migrate from the such as reproductive hormones and insulin packaging into the food if they are stored badly

Under some conditions chemicals such as BPA and Phthalates can leech into foods from packaging. They can affect the endocrine system which produces hormones in the body

Additives

Additives in food can be chemical or natural. Give food characteristics like long shelf life or colour or flavour. Used to stop crystallization of sugars, to soften foods etc

Not all food additives are harmful chemicals but some are. Long term effects such as cancers and nerve damage Short term effects like allergies and hyperactivity in children

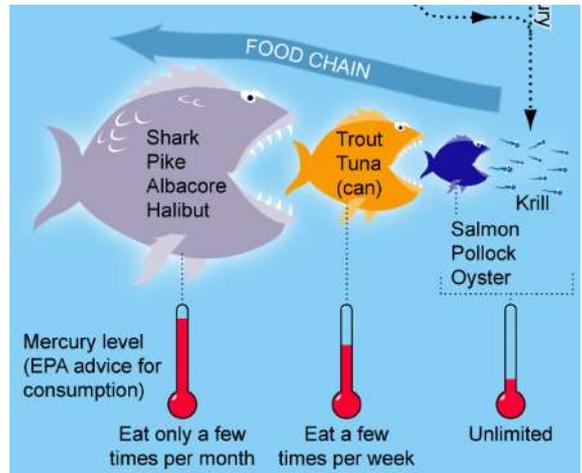
cleaning

Foods and equipment are cleaned with chemicals which may stay on the food afterwards. some industrial cleaning chemicals are harsh on machines

Poisoning like symptoms, vomiting, diarrhoea headaches. Could build up with long term exposure such as jobs like cleaners

Metals

Small amounts of mineral metals are needed for GOOD health.



Naturally occurring

Metals such as iron, zinc, sodium are naturally present in foods and we need them as minerals for good health. Others such as Arsenic, cadmium, lead and mercury are naturally in the environment and get into food. Toxic metals such as Arsenic and cadmium could build up in the body. Lead and Mercury cause brain damage.

Residues

Human activities such as farming, industry or car exhausts could cause metals to remain in the environment and get into food. Long term effects from build up of residues such as brain damage, nerve damage and problems with digestion and body functions.

Food chain

Metals in low concentrations at the bottom of the food chain are concentrated as they go up the chain and can be toxic to the end consumer. Concentrated lead and mercury can cause brain damage and damage to unborn babies. Can cause nerve damage and muscle problems.

Poisonous plants



Some plants we eat are naturally poisonous and have to be treated or have the poisonous part removed before we eat them.

Rhubarb leaves

Solanine on potatoes

Kidney beans

Can cause vomiting, diarrhoea and possibly toxic to humans causing death (but not likely)



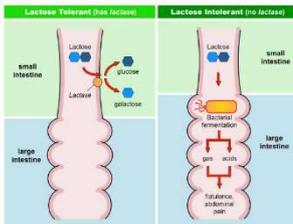
Poisonous plants such as some weeds could get into food when being harvested or when eaten by animals



AC 4.1 Allergies and intolerances

Intolerances vs allergies

- Food intolerances are more common than food allergies. The symptoms of food intolerance tend to come on more slowly, often many hours after eating the problem food. Typical symptoms include bloating and stomach cramps.
- A food allergy is a rapid and potentially serious response to a food by your immune system. It can trigger classic allergy symptoms such as a rash, wheezing and itching.
- Genuine food allergy is rare. About 2% of the population and 8% of children under the age of three are affected. (www.nhs.uk)



- some people react to certain foods and eating them may cause uncomfortable symptoms or, in rare cases, a severe illness.
- Food intolerance is more common in children than in adults. Children often grow out of the intolerance before they go to school.

Lactose intolerance



- Avoid milk and milk products
- Experience nausea, bloating, pain in the abdomen and diarrhoea
- Eat lactose-reduced products
- Eat goats cheese, soya milk, feta cheese, rice milk
- When planning dishes, read ingredients carefully,
- even foods like margarine can contain milk derivatives which could make the customer ill
- Soya and vegetable products replace milk in a number of foods, milk, cream, cheese, yoghurt can all be made from soya

Coeliac/gluten intolerance

- Intolerant to the protein gluten
- Causes diarrhoea, anaemia, weight loss
- Gluten is found in many cereals plants primarily wheat, rye, barley and some oats
- Avoid pasta. bread. cereals flour based foods
- People with coeliac disease must avoid foods that contain gluten, for example, bread cakes, and biscuits. Many foods have small amounts of wheat, barley or rye added, so people with coeliac disease must check food labels carefully.
- Rice, maize and potatoes do not contain gluten so are good sources of starchy carbohydrate, and gluten-free versions of foods such as bread and pasta are available.



Food allergies

- A food allergy is one particular type of food intolerance that involves the body's immune system. Only true allergies involve the immune system.
- In the UK, the most common food allergies are to eggs, milk, fish, peanuts and tree nuts (such as walnuts, Brazil nuts and almonds). In the UK, kiwi fruit allergy among children is becoming more common.
- There are up to 10 recognised deaths from food allergies in the UK every year. *

Symptoms of food allergies

A food allergy usually occurs between a few minutes and a few hours after eating a particular food.

The symptoms of food allergies vary

- coughing;
- dry, itchy throat and tongue;
- nausea and feeling bloated;
- wheezing and shortness of breath;
- swelling of the lips and throat;
- runny or blocked nose;
- sore, red and itchy eyes.



Anaphylaxis

- *Feeling lightheaded or faint.*
- *fast, shallow breathing, wheezing*
- *a fast heartbeat*
- *clammy skin*
- *Confusion and anxiety*
- *collapsing or losing consciousness*

- Anaphylaxis is most commonly caused by food allergies, but can also be caused by other things, such as insect bites and drug allergies.
- Peanuts, milk, eggs and fish are the most common foods to cause anaphylaxis in the UK.



Preventing allergic reactions

All menu items must be marked with any of the 14 major allergens they contain

Wait staff should have a good knowledge of which allergens are present

Complete allergen check sheet for new menu items

When using pre prepared ingredients, kitchen staff should check the labels carefully to identify any allergens eg

Peanut flour used to thicken the sauce in a takeaway curry;

Milk present in a minor ingredient in a pre-packed or catered food.



GLUTEN



PEANUTS



TREE NUTS



CELERY



MUSTARD



EGGS



MILK



SESAME



FISH



CRUSTACEANS



MOLLUSCS



SOYA



SULPHITES



LUPIN

Main Dish

Caesar Salad

ories 268 / Fat 24gm / Sodium 391mg / Carbs 9gm / Sugars 1gm / Pro 6gm
tains: barley/rye, eggs, milk, peanuts, soy, tree nuts, wheat

Halal Lemon Chicken

ories 341 / Fat 20gm / Sodium 955mg / Carbs 1gm / Sugars 0gm / Pro 38gm

Vegetable Kabob

ories 54 / Fat 1gm / Sodium 32mg / Carbs 11gm / Sugars 5gm / Pro 2gm

Contains: soy

gf M

Broccoli

(1/2 Cup) Calories 40 / Fat 0gm / Sodium 27mg / Carbs 6gm / Sugars 2gm / Pro 1gm

gf M

Chocolate Chip Cookies

(Cookie) Calories 169 / Fat 7gm / Sodium 115mg / Carbs 24gm / Sugars 12gm / Pro 2gm

Contains: barley/rye, eggs, milk, soy, wheat

These ingredients must be labelled on menus and packaging

DISHES AND THEIR ALLERGEN CONTENT

(Note – Please state the name of the cereal(s) containing gluten** in that column AND/OR the name of the nut(s)* in that column)

DISHES	 Celery	 Cereals containing gluten**	 Crustaceans	 Eggs	 Fish	 Lupin	 Milk	 Molluscs	 Mustard	 Nuts*	 Peanuts	 Sesame seeds	 Soya	 Sulphur dioxide
Tuna Salad [example]	✓			✓	✓		✓		✓					

Review date:

Reviewed by:



You can find this template, including more information at www.food.gov.uk/allergy

Complete the allergy check list for the following

1. Special fried rice
2. Sweet and sour prawn balls
3. Chicken korma
4. Prawn samosas
5. Lasagne
6. Paella
7. Four seasons pizza
8. Crumbed ham
9. Scotch egg



The allergenic ingredients in special fried rice are:

- Crustacea – prawns
- Soya – in the light soy sauce and in the Chinese roast pork
- Wheat – in the light soy sauce and in the Chinese roast pork
- Eggs
- Molluscs – in the oyster sauce
- Sesame – in the sesame oil

AC 4.2 Environmental health officer- Roles and responsibilities

What do EHOs do?

- EHOs deal with a variety of different legislation and enforcement not just related to food.
- EHOs tend to specialise in an particular area of work once qualified-
- food safety
- Infectious diseases
- environmental protection
- noise, radiation & pollution control
- water standards
- health and safety at work
- animal welfare
- waste management
- housing standards



Chartered
Institute of
Environmental
Health

Food legislation enforced by EHOs

The Food Safety Act.

Food safety from the manufacturer or producer to the point of sale. Might involve different companies or premises e.g. suppliers, manufacturers or kitchens, shops or restaurants.

The Food Safety Act (General Food Hygiene) Regulations.

Ensures food producers **HANDLE** all food hygienically.

The Food Safety Act (Temperature Control) Regulations.

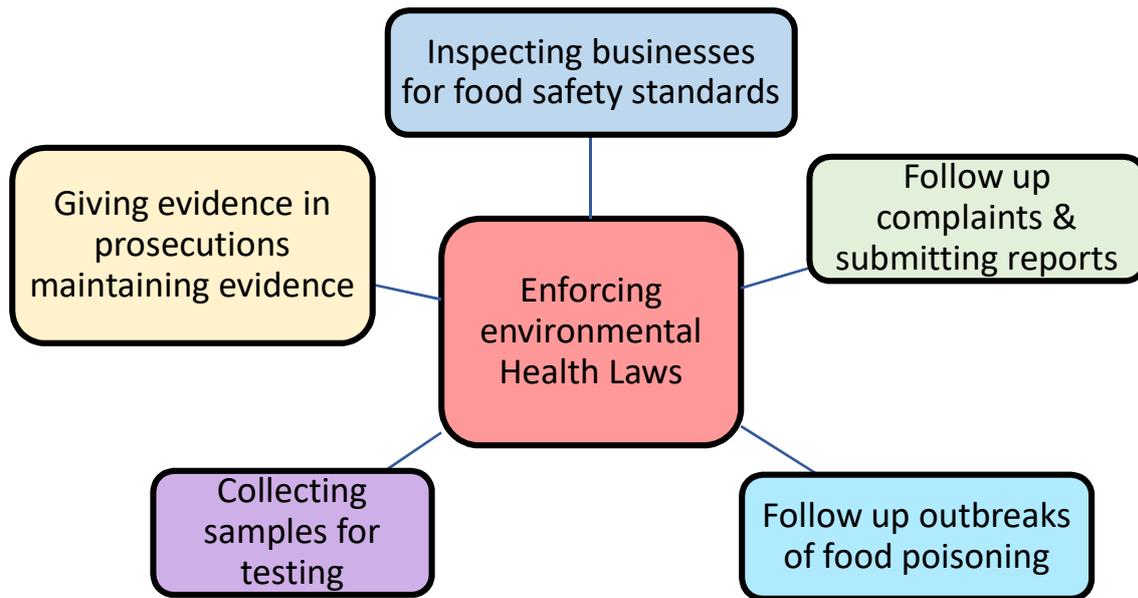
Temperatures at which to store or hold food.

- Freezers from -18°C to -24°C
- Chillers from 3°C to 8°C
- Fridges from 1°C to 5°C
- Cooked core temperature at 75°C or above
- Hot holding above 63°C

The Food Composition Regulations.

Specifies what ingredients **CAN** or **CANNOT** be used in the manufacture of foods e.g. bread, breakfast cereals and use of additives

EHO roles in the Hospitality and Catering industry



Inspecting businesses for food safety standards

- Powers of entry at any reasonable time
- Inspect food and premises
- Power to seize and detain food
- Serve notices
- Power to close
- Prosecute



Food premises must..

- Be well maintained
- Be regularly checked
- Have lockers for employees
- Have hand wash facilities
- Have clean cloakroom and toilet facilities
- Have first aid available
- Have clean storage areas
- Have temperature controlled fridges and freezers
- Have equipment that is clean and in good working order
- Be free from pets and pests etc

Food handlers must ...

- Have regular training in food safety
- Be dressed in clean 'whites' or other uniform
- Have hair tied back (and ideally wear a hat)
- Have short, clean nails – no nail varnish or jewellery
- Be in good health (no upset stomachs)
- Have 'good' habits, e.g. no coughing or sneezing over food
- Wash their hands after handling raw meat, after blowing nose, after going to the toilet etc
- Cuts should be covered with a blue plaster



Food Hygiene practices

- Food deliveries should be checked thoroughly
- Food should be labelled and stored correctly (in freezers, chillers, fridges and dry stores)
- Food should be rotated (first in first out)
- Care should be taken with temperature control in the kitchen (i.e. food kept out of the danger zone of 5-63oc)
- Food should be prepared quickly and as close to cooking time as possible
- Hot food should be maintained at above 63oc
- The core temperature of cooked food needs to be at least 75oc
- Chilled food should be stored below 5oc
- Washing up should be done in hot soapy water if there is no dishwasher available
- Waste should be disposed of safely.

Documentation ...

The EHO has to make staff know and carry out food preparation safely and hygienically. How might they do this?

All food businesses must have a food safety management system
Includes safe working methods, critical control points and monitoring



**Safer food
better business
for caterers**

The Food Standards Agency publishes a file which contains check lists and guides for food businesses. If the business completes all parts of it they comply with the law



Safe method Opening and closing checks	Safe method Product withdrawal and recall
<p>Opening checks</p> <p>Has Higiene (initial display equipment and fixtures) been working properly?</p> <p>Has other equipment (e.g. hand washing) been working properly?</p> <p>Is staff in fit for work and wearing clean work clothes?</p> <p>Food preparation areas are clean and disinfected, when appropriate (bench surfaces, equipment, controls etc.)</p> <p>There are plenty of handwashing and cleaning materials (soap, paper towels, cloths etc.)</p>	<p>Sometimes there will be a problem with a food product that means you will need to 'withdraw' it (when you should stop supplying it) and/or 'recall' it (when customers are asked to return/destroy a product).</p> <p>There are a number of reasons that a product might be withdrawn or recalled. For example, it could have been found to:</p> <ul style="list-style-type: none"> • be a manufacturer of the product • be a supplier or distributor • be a source of contamination • be a source of allergens • be a food safety hazard • be a food safety hazard • be a source of contamination • be a source of allergens • be a source of contamination • be a source of allergens <p>You or your staff may also notice a problem with a food product that means it may not be safe to eat. If this happens, you should stop supplying it straight away and tell your local authority and the food business agency.</p> <p>If you have a problem with a product, you should stop supplying it straight away. You might also need to tell your customers.</p>
<p>Closing checks</p> <p>Has food been left out?</p> <p>Has staff in 'white' been changed?</p> <p>Has staff been washed and changed into clean work clothes?</p> <p>Has staff been removed and kept out of the kitchen?</p>	<p>What to do</p> <p>If a manufacturer has issued a product withdrawal or recall, you must know which product and which batches are affected.</p> <p>Remove the affected product from wherever you can store or sell it and what it checks to do it should not be available.</p> <p>Remember to check if you have used the product as an ingredient in any food you have prepared and stored, e.g. in the freezer. If you have, stop your food business for the product.</p> <p>This is your staff's responsibility to do and do not recall the product.</p> <p>Stop your customer if you can.</p> <p>If a problem is with a product that your customer might not see or do it straight away, you may need to tell them that the product is being recalled and only if the manufacturer or supplier tells you to do so at all. If you are not sure, you should do it. If you are not sure when to do, contact your local authority.</p>
<p>The opening and closing checks are also listed in the diary.</p>	<p>Think recall</p> <p>If a food business is in a recall of what food products you have bought, who you bought them from, the quantity and the date. Usually the easiest way to do this is to keep all your invoices and receipts. You should have this information in a way that makes it easy for you or an authorised officer to check back to see when a product came from.</p>



Record keeping

Legal requirement that certain records are kept as part of the HACCP-based food safety management system, eg:

- Fridge/freezer records
- Cooking/hot-holding temperatures
- Cleaning records
- Training records
- Pest control checks



SECTION 5 RECORDING FORMS / 3

SC2 - Fridge/Cold Room/Display Chill Temperature Records

Month: Year:

TEMPERATURE OF FRIDGE/COLD ROOM/DISPLAY CHILL* (insert name or number of units in shaded boxes)											COMMENTS/ACTION	SIGNED
UNIT	AM		PM		AM		PM		AM			
DATE	AM	PM										
1st												
2nd												

SC5 - Hygiene Inspection Checklist

Simple checks of the premises which should be carried out by the Proprietor or Manager regularly*

	Satisfactory		Details of Action Taken
	Yes	No	
Hygiene of Food Rooms & Equipment			
Are food rooms and equipment in good condition and well maintained?			
Are food rooms clean and tidy and do staff clean as they go including difficult areas?			
Is equipment easy to clean and kept in a clean condition?			
Are all food and hand contact surfaces e.g. work surfaces, slicers, fridge handles, order thermometers, in good condition and cleaned/disinfected regularly?			
Are suitable BS EN approved cleaning chemicals available and stored correctly and are proper cleaning methods used?			
Are separate cleaning cloths used in clean areas? If they are re-used are they laundered in a hot wash?			
Food Storage			
Are deliveries appropriately stored immediately?			
Is ready-to-eat food stored above/separate from raw food in the fridges?			

Training

Dependant on the type of business and risk involved.

- All food handlers must receive food hygiene training by law and the business must keep records of the training.
- EHOs check the records of training to make sure they are complete
- EHOs can also provide food Hygiene training to businesses either as part of their job or for a small fee

Levels 1 – 4 are available. Recommended it is updated every 3 years

Food Hygiene Rating Scheme

- EHOs issue a rating between 0 and 5 when conducting inspections
- Issued to restaurants, pubs, cafes, mobile catering etc
- Displaying them isn't a requirement yet



Although its not compulsory to display the ratings in England YET do you think it is a good idea for businesses to display them?

Consequences of poor inspection results

- Can close dirty premises at no notice
- Notice to improve and re inspection
- Can impose fines of £20,000 or six months imprisonment
- Can take legal action for manslaughter

All premises must be registered with the local authority and can be inspected at any time by an EHO.

A Hygiene Improvement Notice is used to require food businesses to improve something sub-standard

Follow up complaints & submitting reports

The EHO investigates complaints from the public about problems when with food/drink. These can be

- Physical
- Chemical
- Biological



The EHO reports back to the customer and the provider – can prosecute supplier if negligent

Follow up outbreaks of food poisoning

- The EHO coordinates with doctors, hospitals, victims and food suppliers to trace and identify sources of food poisoning outbreaks (and single cases)
- They take samples of food, faecal samples, swabs of kitchens and production areas and these are analysed by the Public Health laboratory service to identify the species and likely causes
- EHOs publish a report on the outbreak that gives the timeline and how the outbreak could have happened – publicly available



Collecting samples for testing

EHOs collect samples for testing using *aseptic* methods so no bacteria contaminate the sample

- Foods
- Faecal
- Swabs of surfaces or workers
- Foods (for composition testing)
- ATP swab testing



In cases where there could be a prosecution the sample is divided so that there is a reference to use if it goes to court



Giving evidence in prosecutions maintaining evidence

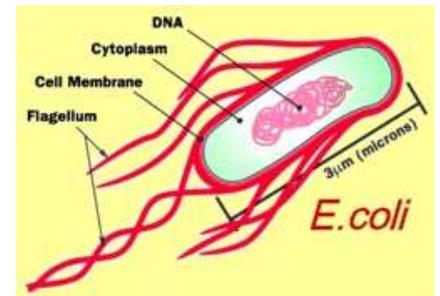
- Prosecutions under food safety laws are serious, people can get injured or even die .
- The EHO writes a report for the prosecution service who decide if it is serious enough to take to trial
- The EHO who conducted the investigation gives evidence as an expert witness and explains where the defending party has broken the law
- Evidence is submitted in the form of photos, lab results, and the EHO notes from the investigation

Doctors notify environmental health of suspected cases of **infectious disease**.

- EHO then visits the person to complete a questionnaire sent to PHE who analyse the data
- EHO would investigate any source of infection locally

Campylobacter – Most common cause of food poisoning in the UK

Cryptosporidium – Is a microscopic parasite that causes



Accident Investigation



**Health & Safety
Executive**

Accidents must be reported to the Health and Safety Executive via reporting system (RIDDOR).

- Deaths caused by workplace accidents
- Occupational diseases
- fractures, amputations, loss of sight etc
- Over 7 day incapacitation of a worker
- Dangerous occurrences
- Accidents to members of the public where they are taken to hospital.

The EHO receives ALL RIDDOR information in their area.
How can the EHO use the information to improve food premises?

ATP Swabs

What is ATP and how is it measured?

All organic matter contains ATP including food, bacteria, mould and microorganisms. The detection of ATP indicates the presence of biological matter.

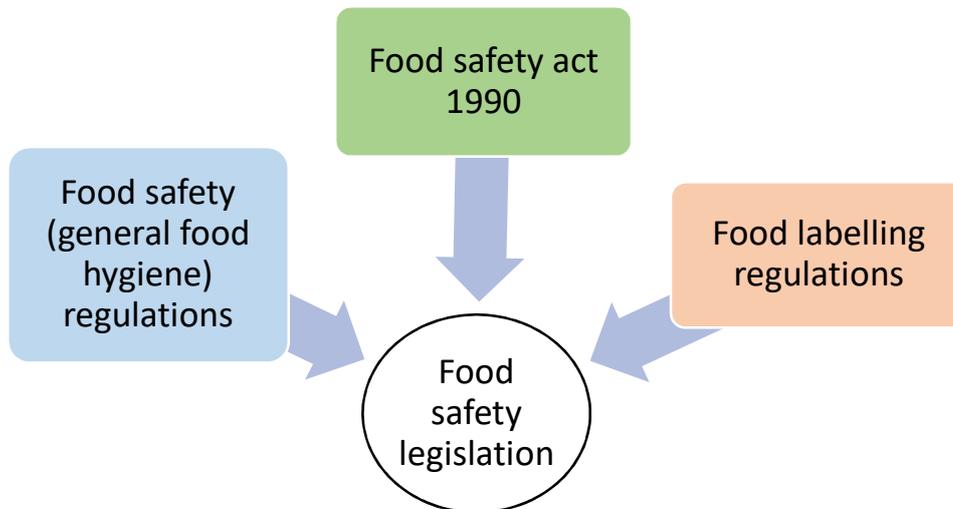
A sterile swab is used to take approximately a 10cm² sample. ATP uses bioluminescence to take a reflective light unit reading (RLU) from the swab.

. Measuring the amount of bioluminescence from an ATP reaction provides a good indication of surface cleanliness

Unclean surface → large amount ATP → more light produced → high reading



AC 4.3 Food safety legislation



Food Safety Act
1990

If a person renders (which means “makes”) a food injurious to health: by adding an article or substance to it; using an article or substance as an ingredient in its preparation; abstracting (which means “taking away”) any constituent from it; or subjecting it to any other process or treatment then they are guilty of an offence

Main provisions of the Food Safety Act

1. It is an offence to supply food that fails to comply with food safety requirements
2. Strengthened powers of enforcement including detention and seizure of food
3. It requires training in basic food hygiene for all food handlers
4. All food premises must be registered
5. Authorises EHOs to issue improvement notices if there is a potential risk
6. EHOs can issue emergency prohibition notices to force caterers to stop their business immediately

Food businesses:

- Must ensure that the food served or sold is of the nature, substance or quality which consumers would expect, e.g. :
 - Nature - pollock rather than cod;
 - Substance - contains foreign material including glass or packaging;
 - Quality – mouldy bread or stale cake.
- Ensure that the food is labelled, advertised and presented in a way that is not false or misleading, e.g. photos on menus that do not look like the dishes served to customers.

Role and powers of E.H.O

Environmental Health Officers

- Provide Food Safety advice
- Inspect food premises
- Enforce legislation covering food
- Investigate outbreaks of food-borne disease and possible offences



- Powers of entry at any reasonable time
- Inspect food and premises
- Power to seize and detain food
- Serve notices, power to close businesses
- Power to prosecute

Penalties under the Food Safety Act

	Magistrates court	Crown court
Selling food that does not comply with the Food Safety Act	6 months in prison or max £20,000 fine	2 years in prison Unlimited £ fine
Obstructing an Environmental health Officer	3 months in prison or max £2,000 fine	2 years in prison or £ unlimited fine

Defence of Due Diligence

- *The principal of defence under The Food Safety Act 1990*
- *A business must be able to demonstrate that it has done everything within its power to safeguard consumer health*
- *Accurate records are useful in proving this defence; these may include:*
 - Temperature control records delivery/storage/cooking
 - Microbiological records
 - Hygiene training for staff
 - Use of HACCP system
 - Pest control records
 - Hygiene manuals, cleaning schedules
 - Hygiene policy

Food Safety (General Food Hygiene) Regulations (1995)

- -Food premises
- Personal hygiene of staff
- Hygienic practices

- make sure food is supplied or sold in a hygienic way;
- identify food safety hazards;
- know which steps in your activities are critical for food safety;
- ensure safety controls are in place, maintained and reviewed.

Food premises should

- be clean and in good condition, made from easy to clean materials
- have potable (drinking) water;
- have pest control measures
- have adequate lighting and ventilation ;
- clean lavatories which do not lead directly into food rooms;
- have adequate hand washing facilities and drainage
- facilities for washing food and equipment;
- facilities for the storage and removal of food waste.



Food Handler – Legal Requirements



- Keep yourself clean
- Keep your workplace clean
- Protect food from contamination or anything that could cause harm
- Follow good personal hygiene practices
- Wear appropriate protective clothing
- Sell food with an expired date mark
- Work with food if they have symptoms of food poisoning or had diarrhoea and sickness in the last 48 hours.

Food Safety Training

- Food handlers must receive adequate supervision, instruction and/or training in food hygiene. Each food business must decide what training is needed



- Legal requirement
- Appropriate to tasks undertaken
- Recorded
- Refreshed at given intervals eg yearly

HACCP- legal requirement

Hazard
Analysis
Critical
Control
Point

Hazard – anything that could cause harm to consumers
HACCP is designed to help food companies to minimise the risk from food hazards

Record Keeping

Legal requirement that certain records are kept as part of the HACCP-based food safety management system, eg:

- Fridge/freezer records
- Cooking/hot-holding temperatures
- Cleaning records
- Training records
- Pest control checks



Using HACCP

Fill in the chart, stating what the hazards/dangers might be at every stage and stating what action

Stage	Hazard	Action
Buying		
Delivery		
Storage		
Preparation		
Cooking		
Chilling		

Penalties for Non-Compliance

- Prohibition from using part of business
- Fines and legal costs
- Prison sentence
- Closure of business
- Prohibition from running a food business
- Criminal record
- Defence of Due diligence also for this regulation



The Food Hygiene regulations 2006

- Applies to high-risk foods
- Cold foods- store below 8°C
- Hot foods – store above 63°C



During service :-

- Cold food max 4hrs at room temperature then discard or refrigerate
- Hot food maximum 2 hrs
- Buffet food 90mins at room temperature