SAFETY SYSTEMS FOR FOOD IN THE WORKPLACE



After completing this section, you will be able to:

• Explain the basic principles of food safety and associated legislation

Safety Systems for Food in the Workplace



legislation	regulation	safety	enforce
distribution	hygiene	hazard-analysis	contamination
equipment	personnel	procedures	waste
temperature	principles	protective	hazard
control measures	operation	facilities	records
adequate	chemicals	implementing	responsibility
monitoring	procedure	report	guidelines
prosecute	concentration	process	potential
hazard	electrical	unobstructed	emergency
defects	cables	plugs	appropriate
chemicals	labelled	manual handling	waterproof
sterile	Irritation	scalds	appliance

Abbreviations:

- CCP Critical Control Point
- EHO Environmental Health Officers
- EU European Union
- FSAI Food Safety Authority of Ireland
- FSMS Food Safety Management Systems
- HACCP Hazard Analysis & Critical Control Point
- HSE Health Service Executive



Food Safety Systems: Food Hygiene and Safety Legislation

The food industry in Ireland is divided into three main sectors:

- 1. Catering and Hospitality
- 2. Retail
- 3. Manufacturing

All of these sectors are governed by food hygiene and safety legislation. Food legislation controls how food is handled from the farm to fork. The main aim of the legislation is to ensure that consumers are protected in relation to the safety of food consumed.

Requirements for food safety are a result of:

- legislation (both from the EU and Ireland) which lays down minimum hygiene requirements
- official controls for the compliance of food business operators (managed by regulatory officials)

Both employers and employees have legal responsibilities to work with food in a safe and hygienic manner.



Elements covered by food legislation

Key elements of a food business covered by food legislation include:

- Hygiene of food premises, equipment and personnel
- Controlling food temperatures at all stages of preparation
- Correct procedures for dealing with waste and its disposal
- Staff and management training
- Distribution of foodstuffs
- Safe water supply
- · Requirements for food packaging use and storage

These elements are controlled by implementing a food safety management system (FSMS) based on the principles of HACCP (Hazard Analysis Critical Control Point) within a food business.

The Food Safety Authority of Ireland (FSAI)



The Food Safety Authority of Ireland (FSAI) is the body with responsibility for monitoring implementation of food legislation in Ireland. It was set up in 1998. It is the single independent regulatory authority responsible for enforcing food safety legislation in Ireland. It ensures that EU regulations and directives are enforced.

In the catering and retail sectors the Environmental Health Officers (EHOs) from the HSE are the officials who inspect and enforce food legislation.

The legislation

Food law in Ireland is very complex. Since 1972, most food legislation results from Ireland's membership of the European Union (EU). The main EU legislation that applies to all food business in Ireland is **Regulation EC No 852/2004.**

In addition to EU laws, food legislation exists as part of Irish Statutory Instruments dating from 1950 to 1989.

Summary diagram of the main EU and Irish Statutory Instruments that govern food legislation that applies to all food business in Ireland:

FOOD HYGIENE & SAFETY		
	All food businesses: Regulation (EC) No 852/2004	
EU REGULATIONS	Food businesses handling products of animal origin: Regulation (EC) No 853/2004	
	Specific rules for official controls on products of animal origin:	
	Regulation (EC) No 854/2004	
IRISH STATUTORY	Food Hygiene Legislation 1950-1989	
INSTRUMENTS	Food Safety Act 1998	
	LABELLING & MARKETING STANDARDS	
	General labelling legislation	
GENERAL FOOD LAW	Nutrition and health claims legislation	
	Product specific legislation, such as beef, honey, eggs, organic food, and fresh fruit.	
MICROBIOLOGICAL CRITERIA	Regulation (EC) No 2073/2005	
OTHER RELATED LEGISLATION	such as additives, flavourings, packaging, and advertising	

Find out more about food legislation in Ireland at:

http://www.fsai.ie/legislation.html and at http://www.irishstatutebook.ie/home.html

Food Safety Management Systems (FSMS)

Food hygiene legislation places the responsibility for producing safe food on food business operators. To make sure that customers receive safe food products, food businesses must have an effective Food Safety Management System (FSMS) in place.

A FSMS is a system that allows controls to be implemented within a food business to ensure that the food produced is safe to eat.

There are two key points about food safety management systems (FSMS):

- ✓ Before implementing HACCP principles each business must have basic good hygiene practices and control measures in place. These are called prerequisites. Prerequisites are designed to control potential hazards in the food environment (including the food-handling staff).
- ✓ As part of a food safety management system, HACCP works alongside general hygiene requirements or prerequisites in the food premises.

Within a FSMS general hygiene controls apply, where appropriate to:

- ✓ Cleaning
- ✓ Maintaining equipment and buildings
- ✓ Personnel hygiene and training
- ✓ Pest control
- ✓ Plant and equipment
- ✓ Premises and structures
- ✓ Services (water, air, steam, ventilation and lighting)
- ✓ Food storage
- ✓ Distribution and transport
- ✓ Supplier control
- ✓ Management of waste
- ✓ Zoning (separate work areas for different types of food activity)

HACCP (Hazard Analysis Critical Control Point)

HACCP is used to identify and set up Critical Control Points (CCPs) where it is essential to ensure that food is produced safely.

HACCP was developed in the early 1960's by Pillsbury – a large US food company and NASA (National Aeronautics Space Administration, USA) to ensure that astronauts were provided with safe food. (It was important to prevent astronauts from suffering from diarrhoea and vomiting in a space suit without gravity!)

All food businesses are different and do not have the same level of risk. Each business must look at its own products and process flow to identify potential hazards and implement the level of control necessary.

Depending on the safety risk from the product range and the process, businesses can choose one of three methods to implement a food safety management system (FSMS) based on HACCP principles.

- Comply with the basic hygiene rules (prerequisites) in food legislation (suitable for low-risk businesses).
- 2. Follow a relevant sector guide to good practice:
 - ✓ Irish Standard (I.S.) 340:2007 Hygiene in the Catering Sector
 - ✓ Irish Standard (I.S.) 341:2007 Hygiene in Food Retailing and Wholesaling
- 3. Develop a FSMS based on the seven principles of HACCP specific to the business.

In simple terms HACCP involves:

- ✓ identifying what can go wrong with a food product and/or a process
- ✓ planning to prevent it
- ✓ implementing critical controls at identified specific points.

When looking at potential risks to food products and during the preparation process a business will review the four groups of hazards.

- 1. Chemicals
- 2. Allergens
- 3. Microbial or bacterial
- 4. Physical
- ✓ Every business involved in producing, preparing or selling food has a legal and moral responsibility to set up a food safety management system (FSMS).
- ✓ The levels of control within a business will vary with the size of the business, the
 types of food handled and the end consumer.
- ✓ The food safety management system should minimise the risk of microbial foodrelated illnesses or harm from physical and chemical hazards, as well as allergens in foods.
- ✓ HACCP principles can be applied to any type of food business in any sector of the industry.



The seven principles of HACCP:

1. Identify the Hazards



2. Identify Critical Control Points (CCPs)



3. Establish Critical Limits



4. Monitor the Critical Control Points



5. Decide corrective action to be taken if things go wrong



6. Verify that the HACCP plan is working



7. Document the CCPs and keep records

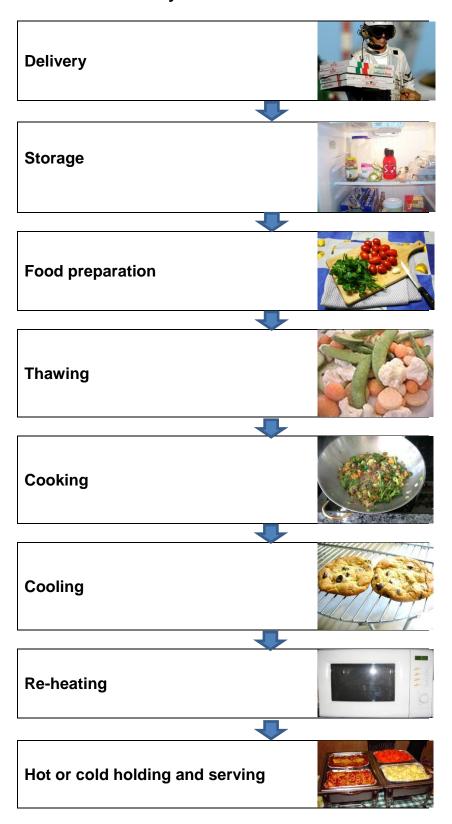
HACCP involves putting controls in place at points identified that are critical to food safety.

When developing and implementing a HACCP-based system the following steps are taken:

- Identify the potential food hazards in a food business that must be prevented, eliminated or reduced to acceptable levels. A food hazard may be microbiological, physical or chemical or an allergen in food.
- Identify the Critical Control Points (CCP) at the step(s) where control is essential to ensure the safety of food.
- Establish critical limits. Set targets at each CCP which will present, eliminate or reduce the hazard to a safe level (such as cooking food to a core temperature of 75°C).
- 4. **Monitoring**: Regularly check the critical control measures at each CCP to make sure the process is under control and to prevent problems arising.
- 5. **Establish corrective actions** to take when something goes wrong (when a critical limit is breached).
- Establish procedures to verify that the HACCP system is working effectively.
- Establish documents and records suitable for the nature and size of the food business that demonstrate the effective application of the control measures.

Each food business must decide on its own critical points based on the type and volume of food produced and the end customer.

Points at which food safety is critical:





Quiz on hazards

There are four groups of hazards that are important in food safety. Name each group in the space below and list one example of each:

	Name of hazard group
	Name of hazard group
	Name of hazard group
ALL PURFOCE LEARER LE	Name of hazard group



Answer the following questions:

	iswer the following questions.
1.	What elements of a food business are covered by food law?
2.	What legislation must employers and employees comply with in a food kitchen?
	1)
	2)
3.	What is the name of the Irish agency with the responsibility for food safety?
4.	What is its main role?

What are t	he four groups of food hazards?
	of the key legislation that affects the food industry in Ireland:
	of the key legislation that affects the food industry in Ireland:
List some	

9. List the 7	principles of HACCP:
1)	
2)	
3)	
4)	
5)	
6)	
7)	
10. List 5 poir	nts where food safety is critical:
1)	
2)	
3)	
4)	



5) _____



Food Temperature Guidelines

The temperature at which food is kept is critical to food safety. The table states the temperature requirements for foods at various stages of preparation. It also displays corrective actions that need to be taken if required.



Goods inwards	Temperature requirements	Corrective action
Chilled food	O°C -5°C	 If food temperature is between 5°C and 8°C, restore the temperature to below 5°C immediately. If food temperature exceeds 8°C, REJECT food.
Frozen food	-18°C	If temperature of food exceeds - 12°C or shows signs of thawing REJECT food.

Reheating	Temperature Requirements	Corrective Action
Core temperature of reheated food	Food must be reheated to a minimum of 70°C	 If core temperature is below 70°C, INCREASE the heating TIME and or the TEMPERATURE. Reheat foods only once following cooking. If reheated food is less than 63°C for more than 2 hours, DISCARD food.

Refrigerated Storage	Temperature Requirements	Corrective Action
Fridge/chill/cold rooms	O°C -5°C	 If food temperature is above 5°C for less than 2 hours use immediately, risk assess, or discard. If food temperature is above 5°C for more than 2 hours and less than 4 hours, use immediately or discard. If food temperature is above 5°C for more than 4 hours DISCARD.
Frozen food	Must be maintained at or below -18°C	If food temperature is above - 12°C use IMMEDIATELY or RESTORE TEMPERATURE.

Thawing	Temperature Requirements	Corrective Action
Thawing	O°C -5°C	 If thawing food does not achieve a core temperature of 0°-5°C, continue thawing it until the required temperature is reached. Time between thawing and cooking should be less than 24 hours.

Cooking	Temperature Requirements	Corrective Action
Core temperature of cooked food	Minimum 75°C	If core temperature of food is below 75°C, extend the cooking time and or increase the cooking temperature.

Cooling	Temperature Requirements	Corrective Action
Cooling	Cooled food must be transferred to refrigerated storage within 2 hours	If above food temperature is 10°C after 2.5 hours of cooling, food must be USED IMMEDIATELY or DISCARDED.

Hot Holding/ Hot Service	Temperature Requirements	Corrective Action
Hot holding Display or service units	Minimum temp. at or above 63°C	If food temperature is below 63°C for less than 2 hours: • Reheat to 70°C or more, SERVE IMMEDIATELY and DISCARD ANY REMAINING FOOD • Cool to <5°C and REFRIGERATE Reheat to above 70°C, KEEP ABOVE 63°C during service and DISCARD any remaining food.

Cold Holding	Temperature Requirements	Corrective Action
Cold holding Display or service units	O°C -5°C	 If food temperature is above 5°C for less than 2 hours, - USE FOOD IMMEDIATELY or REFRIGERATE. If above 5°C for more than 2 hours but less than 4 hours, USE FOOD IMMEDIATELY or DISCARD. If above 5°C for longer than 4 hours, DISCARD THE FOOD.



Draw a line from each of the points below to the diagram at the side to indicate the required temperature:

Temperature of vehicle used to deliver coleslaw

75°c

- 2. Delivery temperature of coleslaw
- 3. Storage temperature for frozen haddock

70°c

- 4. Cooking temperature for batch cooking pork
- 5. Cooling target temperature within 150 minutes of cooking roast beef

63°c

6. Hot holding temperature of chowder in a soup tureen during a two-hour service period

10°c

- 7. Reheating temperature for cooked turkey
- 8. Cold holding of cooked chicken nuggets

0to≤ 5°c

9. Storage temperature for cooked ham

-2 to ≤2°C

10. Temperature range for a food after thawing



Fill in the table with some key guidelines for safe and hygienic handling of food during each of the stages. Compare the list with other members of the group.

Activity	Guidelines
Storing food	
Preparing food	
Thawing food	
Cooking food	
Serving food	
Using leftovers	
Refreezing food	



The Main Legal Responsibilities of Food Handlers

Food handlers must practice high standards of personal and workplace hygiene. Food legislation lays down standards for employees to maintain to keep food safe.



- Know about food safety and keep up-to-date.
- Know the potential hazards in the business and implement the controls at the critical points.
- Protect customers from food hazards.
- Follow all food business procedures and food safety rules.
- Report any hazards to the supervisor.
- If ill, report immediately to the supervisor and do not handle food directly until symptom free.
- Ensure that no spoilt or unfit food is sold.
- Store foods correctly according to type, fresh, frozen or dry.
- Keep the body, protective clothing and the hands clean.
- Undertake training as requested by the business owner.
- Report any equipment or premises maintenance defects to supervisor.

Personal Hygiene



As a food handler the most important way to prevent food contamination is to keep a high standard of personal hygiene and cleanliness.

Even healthy people carry food-poisoning bacteria on their bodies. By touching parts of the body such as the nose, mouth, hair, or protective clothes, bacteria can spread from hands to food.

Good personal hygiene also makes good business sense. Customers like to see food handling staff take hygiene seriously and practice safe food-handling.

Steps for hand washing

Washing hands thoroughly is one of the most important ways of reducing food contamination.

- Wet the hands.
- Add non-scented soap.
- Rub hands together with soap and warm water. Don not forget to rub the backs of the hands, wrists, between the fingers and under fingernails.
- Thoroughly dry the hands immediately after washing. Dry with disposable paper towel not with a tea towel and never on protective clothes.
- If wearing disposable gloves change them regularly. Wash and dry hands before and after using gloves.

Employees and Handling Food

The nine guidelines from the Food Safety Authority of Ireland Guide to Food Safety Training: Level 1 - and Level 2 – for Food Service, Retail and Manufacturing Sectors), 2009 set out best industry practices for a food business.

www.fsai.ie/WorkArea/DownloadAsset.aspx?id=8310)

The Nine Guidelines From The Food Safety Authority of Ireland **Guide to Food Safety Training** 1. Wear and maintain uniform/protective clothing hygienically. 2. Maintain a high standard of hand-washing. 3. Maintain a high standard of personal hygiene. 4. If suffering from ailments/illnesses that may affect food safety, follow correct hygiene practices. 5. Avoid unhygienic practices in a food operation. 6. Demonstrate safe food-handling practice. 7. Keep staff facilities in a hygienic condition. 8. Obey food safety signs. 9. Keep work areas clean.

The following table gives details on each of the nine guidelines:

Responsibilities of Employees

1. Wear and maintain uniform/protective clothing hygienically.

- Understand the reason for wearing uniform/protective clothing.
- Do not wear personal clothing over protective clothing.
- Wear clean uniform/protective clothing as instructed.
 - o Change protective clothing daily (and more frequently when required).
 - Do not wear protective clothing outside the premises or when travelling to or from work.

2. Maintain a high standard of hand-washing.

- Wash hands using the correct procedure.
- Wash hands as frequently as necessary and always:
 - before starting or restarting work
 - after using the toilet
 - before handling cooked or ready-to-eat foods
 - after handling or preparing raw food
 - after handling rubbish
 - o after smoking
 - after coughing, sneezing, using a handkerchief, blowing the nose, touching the skin, hair or face
 - o after cleaning duties
 - after shaking hands
 - o after handling money.
- Take appropriate action if hot water, soap, etc. are not available.

3. Maintain a high standard of personal hygiene.

- Keep hair neat, tidy and covered when near food.
- Wear suitable clean protective clothing.
- Keep fingernails short, clean and free from nail varnish.
- Do not wear inappropriate jewellery.
- Do not wear too much perfume, deodorant, after-shave or make-up.
- Keep cuts and sores covered with clean brightly-coloured waterproof dressing.
- Use gloves in a hygienic manner, following instructions.

4. Demonstrate correct hygiene practices if suffering from any ailments/illnesses that may affect food safety.

- Report to supervisor if :
 - suffering from any ailments/illnesses (in particular, diarrhoea or vomiting)
 which may affect the safety of food
 - absent from work due to any ailments/illnesses which may affect the safety of food
 - suffered from diarrhoea or vomiting while on holidays (especially overseas)
 - living with anybody who is suffering from ailments or illnesses that may affect the safety of food.
- Do not work near open food if suffering from any ailments/illnesses that may affect the safety of food, in particular diarrhoea or vomiting.

5. Avoid unhygienic practices in a food operation.

- Never chew gum or consume food during a food operation.
- Never spit or pick your nose during a food operation.
- Never cough or sneeze over food.
- Never taste food with the fingers.
- Never handle food after touching the face, nose or head.

6. Demonstrate safe food-handling practice.

- Use the correct colour-coding system.
- Store hot food according to standards.
- Store cold food according to standards.
- Cook and cool foods to the required temperatures.
- Serve food at the correct temperature.
- Reheat food to the correct temperature.
- Store frozen food according to standards.

7. Maintain staff facilities in a hygienic condition.

Keep locker rooms and other staff areas clean.

8. Obey food safety signs.

- Be aware of the food safety signs that are in the workplace.
- Follow the instructions on food safety signs.

9. Keep work area clean

- "CLEAN AS YOU GO".
- Follow the cleaning programme as instructed.
- Make sure that every surface that food comes into contact with is clean before starting work.
- Use cleaning agents and cleaning equipment as instructed.
- Change water used for cleaning when it becomes cool or dirty.
- Ensure food does not come into contact with cleaning agents.
- Store cleaning agents in the correct storage area.



t the nine	e main requirements of a food handler in order to keep food safe:
2	
5	
7	
8	
9	



	Steps for Hand Washing
Washing	hands thoroughly is one of the mostways of reducing food
	·
1)	the hands.
2)	Add scented soap.
3)	Rub hands together with andwater. Do not
	forget to rub the of the hands,, between the
	and under
4)	Thoroughly the hands after washing. Dry
	with paper towel - not with a and
	never on clothes.
5)	If wearing gloves change them regularly. Wash and dry
	hands and using gloves.
State 3 le	gal responsibilities of a food handler:
1	
2	



	Personal Hygiene
1.	List five examples of good personal hygiene in the work place:
	1)
	2)
	3)
	4)
	5)
	1)
	2)
	List three common unhygienic practices that should be avoided when working
3.	in a food preparation area:
3.	
3.	in a food preparation area:



Cleaning in the Food Business



Cleaning is one of the key tasks to be completed in a food business. It helps prevent food becoming contaminated by hazards in the food environment.

Cleaning is the removal of dirt and grease by a combination of:

- physical removal of dirt and grease (manual or mechanical)
- thermal (heat)
- chemical (cleaning agents)

Cleaning In the food sector is essential to:

- reduce the risk of food-poisoning
- remove dirt and grease
- allow disinfect to work on equipment and work surfaces
- remove material that might encourage pests
- provide a pleasant and safe working environment
- promote a favourable image to customers
- comply with Food Law.

General guidelines for cleaning and disinfecting:

- Clean As You Go.
- At end of the day or service period carry out cleaning according to cleaning schedule.
- Know how to use all cleaning chemicals properly and safely.
- Report when cleaning materials and equipment are in short supply.
- Change all tea towels, dishcloths and other cleaning materials regularly (they attract and hold bacteria, especially if they left damp).
- Change water regularly (never clean with dirty cold water).
- Turn off / isolate electrical equipment before cleaning.
- Wear protective clothing.
- Follow the manufacturer's instructions (always read the label).
- Never mix chemicals or cleaning agents.
- Use the correct concentration of chemical to water.
- Allow the correct contact time of the solution to allow bacteria to reduce in number.
- Always clean-dry and properly store the cleaning equipment after use.

The cleaning procedure:

There are six key steps in the cleaning procedure -

- 1. **Pre-clean** Remove food debris and waste.
- 2. **Main clean** Loosen surface grease and dirt using hot water and detergent.
- 3. **Rinse** Remove loose dirt and detergent using hot water.
- 4. **Disinfect** Reduce bacteria to safe numbers using heat or a chemical disinfectant.
- 5. **Final rinse** Remove disinfectant using clean hot water (depending on chemical used this may not be necessary).
- 6. **Dry** Dry, preferably by air drying.



1. List fi	ve reasons why cleaning is important in the food business:
1)	
2)	
3)	
4)	
5)	
2. What	are the 6 key steps in the cleaning procedure?
1)	
2)	
3)	
4)	
5)	
6)	



Safety Systems in the Workplace

Kitchens are hazard-prone zones. Risks in kitchens include fire, danger of slips, trips and falls, electrical risks and cuts.

The golden rules of workplace safety are:

Area of safety	Guidelines
Fire safety	 It is essential that all fire protection equipment is unobstructed at all times. Ensure that emergency fire exits are in proper working order and kept clear at all times. Know where the nearest fire exit and meeting point is located. When leaving the kitchen check that all gas is turned off, windows are closed and safety shut off button is pressed.
Electrical safety	 Do not use electrical equipment with damaged cables or plug outlets. Report defects to the supervisor. Do not use with wet hands or near the sink.
Machine safety	 Ensure employees only operate machine tools that they trained to use Report defects to the supervisor.
Slip/trip hazards	 Wear appropriate shoes and ensure that good house-keeping is maintained at all times. Use a Clean-As-You-Go approach. Use a wet floor sign to warn others.
Chemical safety	 Ensure all chemicals are stored correctly and that all liquid containers are labelled. Never transfer cleaning agents into drinks bottles. Wear protective clothing when handling chemicals.
Manual handling	Follow correct manual handling practices at all times.

Basic First Aid



In the event of an accident all employees must do the following:

- Report accidents to the supervisor.
- All accidents must be recorded in the accident book.
- If treatment is required seek First Aid from the appointed first aider.

This table lists some minor first aid guidelines:

Accident	Guidelines		
Cuts	Ensure the wound is clean and a suitable blue coloured waterproof plaster is applied.		
Scalds and burns	 Stop the burning and relieve pain and swelling. Contact the First Aider to seek the appropriate treatment. Find out if a burn gel is required and if needed to run the burn under cold water. To minimise the risk of infection apply blue coloured sterile dressing. 		
Eye irritation	 Rinse eye with cold water or eye wash from the inside out Allow the eye to rest and if the problem continues go to the doctor. 		

Summary of Employee Responsibilities:

- Take reasonable care for personal safety and the safety of others who may be affected by any persons acts or omissions while at work.
- Co-operate with the procedures in place within the business to enable compliance with any provision of the Safety and Health legislation.
- Do not intentionally interfere with or misuse any piece of equipment or safety appliance provided.
- Use any protective clothing and footwear, equipment or appliances provided for safety and health while at work.
- Report any near miss incident or accident to the supervisor.





Activity

Discussion: In the kitchen there are different ways of communicating about health, safety and food hygiene using signs and symbols. Discuss the different signs and symbols and the activity they indicate.



Revision Worksheets

Safety Systems in the Workplace

Use the words in this table to complete the sentences below:

hazards	emergency	defects	protective	manual handling
irritation	unobstructed	cables	chemicals	waterproof

. The kitchen is a place in which there are many			
2. Fire protection equipmer	nt must always be		
3. Do not use electrical equipment that has damaged			
4. Always report any machi	ne or electrical to superv	risor.	
5. Always make sure that _	are labelled and stored p	properly.	
6. Wear	_ clothing whenever handling chemicals.		
7. Plasters should be blue a	and		
8. Rinse the eye with cold w	vater if ever there is eye		
9. Always practice correct _	practices.		
0 Make sure that	fire exits kept clear at all times.		

