



# FOOD SAFETY AND HYGIENE

# Contents

<b>1. HYGIENE AND FOOD SAFETY</b> .....	3
<b>1.1.1 Understanding hygiene and sanitation</b> .....	4
<b>1.1.2. Professional appearance and physical hygiene</b> .....	4
<b>1.2.1 Procedure for keeping up good personal hygiene</b> .....	6
<b>1.2.2 What happens if I get sick</b> .....	7
<b>1.3.1. What is cleaning?</b> .....	8
<b>1.3.2. Risk factors in food contamination</b> .....	8
<b>1.4.1 The packaging of the material, to ensure that it is still intact:</b> .....	10
<b>1.4.2 Cool storage</b> .....	10
<b>1.5.1. Pest control</b> .....	12
<b>1.5.2 How do I identify and prevent pests?</b> .....	12
<b>1.6 FACTORS THAT AFFECT FOOD SAFETY</b> .....	13
<b>1.6.1 Chemical factors</b> .....	13
<b>1.7 PREVENTATIVE MEASURES AGAINST FOOD CONTAMINATION</b> .....	14
<b>1.7.1 General</b> .....	15
<b>1.7.2 Ventilation</b> .....	17

# 1. HYGIENE AND FOOD SAFETY

## Learning outcomes

- Personal Hygiene
- Personal Hygiene and handling food
- Food contamination
- Types of storage in food safety
- Factors that affect food safety
- Preventative measures against food contamination

## 1.1 PERSONAL HYGIENE

What is personal hygiene?

Give your opinion ...

---

---

---

---



Staying clean is a big part of staying healthy and looking good in the community. The way you look can affect how customers see you and influence whether they will buy products from you or not.



## TASK

Break into groups of four and talk about why hygiene is important Write down some examples of good hygiene habits.

---

---

---

---

---

Hygiene is about more than just being clean. It also involves the things you do to help people be and stay safe and healthy. This applies to the way you handle food as well.

When you don't practise good hygienic habits, you can spread harmful germs that can make your customers sick. This can in turn have a very bad effect on your business, as it will let you lose customers and money.

### **1.1.1 Understanding hygiene and sanitation**

Hygiene and sanitation is all about producing safe food. All food processors including farm workers have a responsibility to produce food that is safe and healthy to eat. Consumers want to be able to eat foods without becoming ill or getting diseases.

Hygiene is a science that serves to maintain health and prevent diseases, especially through practising cleanliness, also at your place of work. Both personal hygiene and hygiene in the work place, are therefore critical practices that must be applied by you, as a seller of goods.

**Personal hygiene can be broken up into two sections;**

#### **Personal cleanliness is:**

- Your moral duty
- Your LEGAL duty
- Something to be proud of

### **1.1.2. Professional appearance and physical hygiene**

First impressions are formed within 30 seconds of meeting/seeing a person and is one of the main contributing factors to how anybody sees you and your business. By dressing for the workplace and maintaining high personal hygiene standards, you create good first impressions and show that you have respect for yourself and others.

The way you look even affects your personality. When you look good, you feel good, which in turn boosts your self-confidence, which is very necessary for running a business. So, your looks not only affect how others see you, but it also affects the way you engage potential customers on an ongoing basis.

Making sure you look respectable sets a standard in your business and is also proven to influence the way your business performs.

### What do I need to do to look good and protect my products?

- Only wear shoes with closed toes, safety shoes or water boots
- Hair must be neat and trimmed or pulled back, to avoid falling into your face, or into foods you prepare
- Facial hair is not recommended, but if you have any, it must be kept neat and tidy and it should be covered at all times in the food preparation areas
- Nail polish must be neat, without chipping off
- If you have body-piercings you should not wear them to work
- Wearing lots of jewellery or jewels is not advised
- Hands and nails should always be clean
- You must shower/bath every day, use deodorant and change your underwear every day
- Wear clean work clothes every day
- Brush your teeth every day
- Wash your hair regularly



Good hygiene is an important way to stop many diseases, and it promotes better health and well-being overall.

## 1.2. PERSONAL HYGIENE AND HANDLING OF FOOD

Food safety is achieved through the hygiene and sanitation procedures that you follow to ensure that your food remains good and that you reduce the risk of contamination. Our laws also prescribe minimum standards of hygiene and sanitation that must be followed.

An 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 your body, such as your nose, mouth, hair, or your clothes, you can spread bacteria from your hands to the food.

Good personal hygiene also makes good business sense. If customers see that your food handling staff don't take hygiene seriously or that they don't practice safe food handling, they will stop buying from you.



### NOTES

#### Ask yourself this?

**Would you want to eat, or buy food from your business?** Write down some of the reasons you would or wouldn't ....

---

---

---

---

---

---

---

---

In your groups, discuss what would be the reason you would buy food from one vendor and not the other

---

---

---

---

---

---

---

### 1.2.1 Procedure for keeping up good personal hygiene

Wash your hand thoroughly

Washing your hands thoroughly is a good way to reduce the chances of contaminating food with bacteria or germs. Regularly wash your hands with soap and warm water and don't forget the back of your hands, wrists, the spaces between your fingers and under your fingernails. Thoroughly dry your hands immediately after you've washed them. Always dry your hands with a clean towel, disposable paper towel or under an air dryer, not on a tea towel and never on your clothes.

Wash your hands after:

- Going to the toilet
- Handling raw food
- Handling pets
- Blowing your nose
- Handling garbage
- Touching your ears, nose, mouth or other parts of the body
- Smoking
- Every break



If you are wearing disposable gloves, change them regularly, in the same way you would wash your hands regularly when you're not wearing gloves. Wash and dry your hands properly before putting gloves.



**Under NO circumstances can you smoke while working with food!**

**Smoking is NOT allowed because:**

- Saliva comes into contact with the fingers and can spread germs



- Saliva particles or cigarette ash and butts can land in the food
- Smoking causes coughing
- Smoking may cause an unpleasant atmosphere for non-smokers
- There is a risk of contaminating the production areas from fingers touching the lips while smoking
- Cigarette ends that are contaminated with saliva are often placed on work surfaces

### 1.2.2 What happens if I get sick

When you or your staff have any condition that can be transmitted through food, you should not go to work. This includes: gastroenteritis (often called 'gastro'), hepatitis A and hepatitis E. You should also not be working if you are vomiting or suffering from diarrhoea (runny tummy) as it can be caused by something that you can pass on to your customers.



**Remember to cover your mouth when sneezing or coughing. This helps prevent customers from getting infected. Wash your hands straight after.**

Common illness and diseases that you might have to deal with:

Illnesses	What to do?
TB, colds & flu	<p>Diseases like tuberculosis (TB), colds and influenza (flu) are very infectious diseases that are passed onto other people by the germs released into the air when an infected person coughs or sneezes.</p> <p>Every time you cough, sneeze or blow your nose into a handkerchief or tissue, you must wash your hands properly, straight after. If you have TB, a cold or flu, it is best to go see a doctor immediately to decide whether there is a risk to the safety of your food products.</p> <p>These types of illnesses fall into a high-risk area when it comes to food product safety.</p>
Mumps/ measles/ chicken pox	<p>These are infectious illnesses and can be contagious to people you come into contact with, plus it can contaminate your products.</p> <p>You should therefore not work, even if you feel well enough, nor interact with others, but rather get your doctor to book you off.</p>
Headaches	<p>Depending on how serious it is, you may be able to interact with others due to the fact that this is not contagious. However, should you need medication to sort out your headache, you should ask for medication that</p>

Migraines	This condition is not contagious, but it can be very dangerous for food safety, as it can cause dizziness and vomiting. Staff suffering from this condition should therefore not work. Noise and bright lights should also be avoided as this can make it worse.
Illnesses What to do?	
Diarrhoea	Diarrhoea or a “runny tummy” could be a symptom of another type of illness which might be risky for food safety. You should see a doctor to find out how serious it is and whether it poses a risk to the safety of the food product. If it is a virus, you should not interact, nor work with others, as viruses can be passed on.  Diarrhoea is not always contagious; but when you suffer from this condition, it is best to rather stay at home and not handle food
Other	Other illnesses that may pose a risk when interacting with others are for example, hepatitis and certain skin conditions.  HIV, although infectious, is only infectious under certain circumstances, e.g. contact with blood or through sexual transmission. It is important to know the possible risks it poses to food safety, but be mindful to not unfairly victimise HIV/AIDS sufferers.  Rather use extra safety measures such as making disposable protective gloves part of your uniform and be extra careful should the need for first aid arise when helping any person who has been injured.

## 1.3. FOOD CONTAMINATION

### 1.3.1. What is cleaning?

The basic aim of cleaning is to remove any materials that are potentially harmful to the product, or that is unsightly or likely to cause the growth of bacteria.

There are generally two types of material that must be removed:

Water-soluble (can be rinsed with water). These materials easily dissolve in water and can therefore be rinsed away. Examples are dirt and dust.

Water-insoluble (should not be rinsed with water only). These materials will only dissolve through the use of proper detergents (cleaning products).  
Examples are blood, fats and oils.

### 1.3.2. Risk factors in food contamination

There are three types of risk factors that could influence food security and cause contamination, namely:

#### i. Physical factors



These are foreign objects in the food that could cause harm when you eat it, such as pieces of glass or metal.

ii. **Chemical factors**

This happens when food products come into contact with toxins, bacteria or pesticides that may be harmful when it is consumed.

- iii. **Microbiological Factors** This is when food comes into contact with contagious viruses that can be distributed in the air and that can contaminate food or the surfaces that the food is placed on.

### Handling

The food product in the packing shed or storage environment can be contaminated by:

- Being dropped on the floor/ground
- Being brushed up against unclean surfaces such as walls
- People handling the food product while not having good personal hygiene

### Contaminated or expired raw materials

Any raw materials and/or ingredients that have been contaminated or is past its expiry date may not be used. Products, raw materials and/or ingredients that do not meet the specifications or standards (legal or company specifications) and that have been rejected or returned, may not be stored together with approved products.

- Raw materials and/or ingredients may not be stored together with processed final products
- Raw materials and/or ingredients must be stored at about 15cm above ground level, preferable on palettes
- Ingredients should be stored a minimum of 30cm away from walls

## 1.4 STORAGE

The correct room temperature is one of the main weapons in controlling bacteria growth. Food products should be put into the freezers or chillers as soon as possible. The quicker the surface temperature gets below 4°C, the less the chances of bacteria growing. If food products are packed too tightly into a chiller, then the chilled air cannot circulate properly, and hot air pockets form around it. The temperature of the food product does not drop quickly, and bacteria can multiply. This has a massive impact on the shelf life of the product, and will cause the food to go bad quicker. The temperature of the food product should be checked regularly. Food products should be packed in cardboard boxes with plastic liners, to protect the food product from getting contaminated by bacteria.

**When raw materials are received in the processing area, it is important to inspect:**

- The transport vehicles for anything out of the ordinary that could contaminate the materials being delivered
- The time-temperature requirements (when applicable), to ensure that the goods received meet the factory's specifications, before it is introduced into the processes
- The production code of each product that must be on the certificate of analysis which must accompany all raw materials from the supplier

#### 1.4.1 The packaging of the material, to ensure that it is still intact:

- Raw materials in damaged packaging cannot be accepted
- Raw materials must be packed in tamper-proof packaging
- People who enter the premises, as no unauthorised person may enter the place where raw materials are stored
- Expiry dates of products. All raw materials must have an expiry date on the packaging and NO expired raw materials can be accepted

#### When storing materials, they must be stored:

- Off the floor and away from the wall to avoid possible dampening of the goods and for inspection purposes
- On shelves
- In a safe manner
- According to set specifications

#### 1.4.2 Cool storage

Cool storage is used to store meat and other foods that can easily go bad.

##### Requirements of a cool storage area:

- » Temperature should be between 4°C and 6°C.

##### **Refrigerators and cold rooms**

- » Refrigerators and cold rooms play a very important role in food service as they act as storage for all perishable foods. Refrigerators that stop working can result in the loss of stock

##### **Requirements of refrigerators and cold rooms**

- » The temperature should be between 1°C and 4°C. If the temperature rises higher than that, the food stored in the fridge will go bad quickly. If the temperature goes below 1°C, the food will freeze, which can also lead to a loss of stock
- » There should be enough shelving inside the refrigerator or cold room

#### Handling materials

- Spillage, leakage and waste in a factory must be correctly contained and disposed of
- All products must be correctly labelled and damaged labels must be replaced
- All non-conforming products must immediately be transferred to a nonconformance area, away from the materials used in production

## The floor and dirt

Any item of food/beverage or raw product that falls onto the floor, or comes into contact with the floor must be thrown away immediately, and may not be put back into the manufacturing process.

When working with materials that are used to pack or wrap the product, avoid contact with the floor and other dirty surfaces, The materials (boxes and wrappers) must not be left overnight where they can be contaminated during the washing of floors or equipment.

## Thermometers

A mercury thermometer may not be used to measure the temperature of a product because it can break and contaminate the food or beverage product with poisonous mercury.

As a rule, alcohol thermometers are used instead of mercury thermometers, except where:

The thermometer is used in a pipeline system or tank where it is separated from the product inside the tank by a casing that makes it impossible for the mercury to get into the product.

# 1.5 PESTS AND FOOD SAFETY

## Why rodents, insects, spiders and birds are a threat to product safety

Pests represent a real risk to the safety of a food product and insects such as cockroaches and flies spread bacteria.

Blowflies lay maggots in the food product.

Rodents like rats and mice attack the packaging, eat the food product, leave droppings, spread contamination and destroy insulation and electrical wiring.

Birds in the storage room are a relatively rare problem, but when birds do nest and live in storage areas, they are a real problem. Their droppings contaminate both the stock and the general environment. Birds can be kept out through netting, but once they've nested in an area, they can be difficult to get rid of.



## TASK

Have you had any problems with pests that we have not discussed? Write down some examples of other pests that could affect your stock.

.....

.....

.....

.....

.....

.....

.....

.....

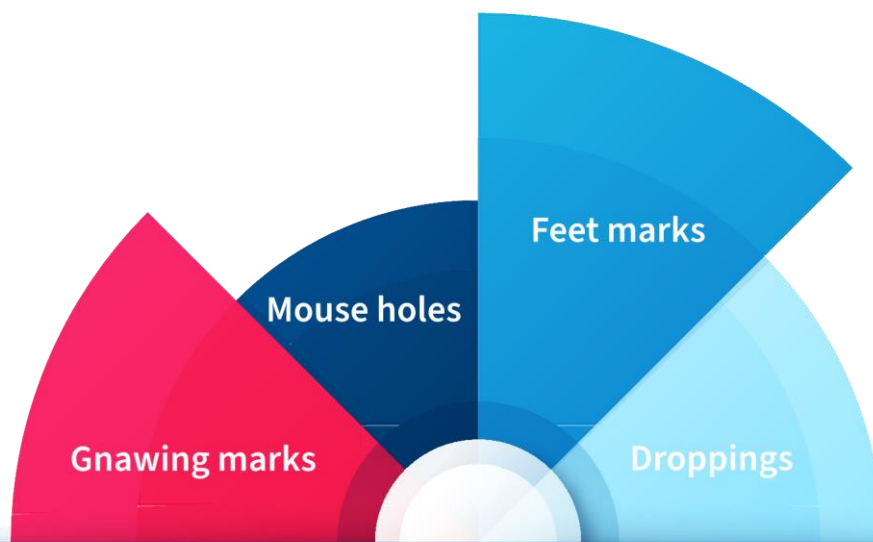
.....

.....

Pest infestations show that there is a serious underlying hygiene failure, such as not cleaning and maintaining the area/food properly.

**1.5.1. Pest control**

Pests can be discouraged by making sure that products or scraps are not left to attract them. The area should always be kept in good order to make sure there is no place for them to live or hide. When you see any signs of pests, you must deal with it immediately.



**Signs that confirm you have a pest problem**

**1.5.2 How do I Identify and prevent pests?**

Reduce their food supply, and access routes and places they can nest in. This will decrease the amount of pests you have.

Types of pests	How do I stop them?	How do I get rid of them?
Rodents: Rats and mice	Get rid of their food and water supplies, limit their access to your shop and destroy any shelters	-Traps -Fumigation -Poison
Insects such as flies	Get rid of all food sources. Fix any broken windows or put mesh or gauze over windows and keep everything clean	-Electro-tubes -Insecticide

Cockroaches	Get rid of all food sources. Place your equipment in such a way that it can be easily cleaned and remove all waste daily	-Insecticide
Grain weevils and flour mites	Limit the breeding areas by storing food in an airtight container and rotating stock on a regular basis	-If possible, lower the temperature
Ants	Pack away all food items not needed. Remove waste daily. Use ant traps	-Find their nesting area and use an insecticide

## 1.6 FACTORS THAT AFFECT FOOD SAFETY

### 1.6.1 Chemical factors

You should know the following about the chemicals you use:

- How the chemicals should be stored
- Properties and uses of the substance.
- Health and hazard information
- Precautions for use
- Safe handling requirements

Insecticides, cleaning and fumigating agents

Insecticides, cleaning and fumigating agents must be kept away from product contact surfaces. Insecticides must not be stored in the same place or areas as food and beverage products and/or raw materials. Cleaning agents must not be stored in the same place or area as food products and/or raw materials.

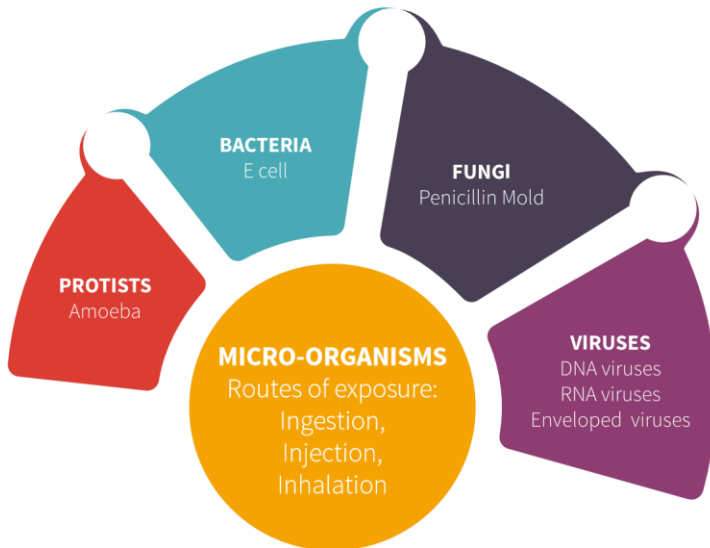


### 1.6.2 Microbiological factors

There are different micro-organisms (very small living creatures) that threaten food safety. The most common micro-organisms that affect the food handling and production industry are:

- » Bacteria
- » Yeast
- » Moulds
- » Viruses

**Micro-organism:**  
A living creature that is too small to be seen with the naked eye



### Where are micro-organisms found?

Micro-organisms can be found everywhere where life is found, such as on the ground, on your body, and on items you touch such as cutlery and equipment, etc.

### What kind of conditions do micro-organisms need to grow and multiply?

Unhygienic (unclean) conditions, and an average temperature of 37°C. Remember cooling does not kill bacteria, but it just slows the growth down a little.

### Processes to remove micro-organisms

Micro-organisms can be destroyed to ensure food safety through the following processes:

- Clarification
- Bactofugation (removing micro-organisms from milk through force)
- Temperature treatment such as: Cooling, heat treatment, sterilisation, Ultra-high temperature treatment (UHTT)
- Removal by water
- Raising the osmotic pressure
- Acidification/lowering of the pH levels (acidity levels)

## 1.7 PREVENTATIVE MEASURES AGAINST FOOD CONTAMINATION



## 1.7.1 General

Requirements that must be met on all premises where food is prepared, according to the Food Hygiene Regulations of 1170:

- Buildings/venues must be in good repair
- Both hot and cold water must be available
- Toilets must be properly clean
- First aid and clothing lockers must be in good repair

This is a South African law, but do you think it is applicable to informal traders?

Here are a few easy steps that can be taken to contribute to food safety practices and prevent contamination:

Food safety	What to do...
1. Waste disposal	Throw everything that is not needed for the process straight away
2. Chemical containers – full & empty	Store them correctly and separately or get rid of them straight away and correctly
3. Working areas	Clean working areas
4. Open wounds	Cover them straight away and wear an extra pair of disposable gloves, if there is any danger of it getting into contact with the food product
5. Hand washing	Wash hands in the manner previously discussed

### Some extra information:

#### Refuse removal:

The proper removal of waste is an important part of hygiene to ensure a healthy environment and to prevent pests such as rats and cockroaches from breeding on your premises.

If you have generated waste (and especially food waste that may begin to smell) it should be removed. Press the waste down into the black bin liner (to reduce its volume) and knot it, and then place it in an outside bin or take it home. Then line the bin with a clean liner.

The following are a few ways to ensure waste is dealt with in the right way:

- Do not let waste build up
- Remove the waste from the work areas all together
- Use strong plastic waste bags
- Store waste in a way that will not cause tripping or slipping
- Seal full bags and take them out to an outside bin/designated area
- Clean and disinfect the refuse area regularly
- Wrap wet refuse in brown paper before throwing it in a bin



## TASK

Have a discussion about how you get rid of waste products in your business. Do you use bins or plastics?

### Hand washing techniques



### SCENARIO

Jabulani is selling mielies on the side of the road and has flu. He is sneezing, his nose is running, and his eyes are watering. Jabulani doesn't have any tissues with him and keeps wiping his nose on his arm and every now and then you see him rubbing his eyes. Jabulani is not wearing gloves and you don't see any running water nearby, where he can wash his hands.

Would you buy a mielie from him? Discuss this scenario and think about the advice you would give Jabulani for his circumstances?

---

---

---

---

---

---

---

---

### Work surfaces

Food handling surfaces should be made of materials that meet the following requirements, as it is easy to clean:

- Non-absorbent
- Impact, chemical and scratch resistant
- Easily cleaned



### Shelves, walls, ceilings and windows

It is important to use the correct shelving for storing ingredients, equipment and chemicals. Try to use stainless steel for shelves, as it is strong and easy to clean.

### Washing of equipment and tools

It is good practice to make sure that equipment and tools are washed properly, by using a disinfectant. When washing or wiping equipment and surfaces, it is important to use hot water as this helps to kill bacteria. Allow surfaces, tools and equipment to air dry as this is more hygienic than using a cloth.

## 1.7.2 Ventilation

When working with food, it is critical to make sure the area is properly aired. The reason for this is that fridges, ovens or stoves can generate a lot of heat. If the area is properly aired, it reduces the heat and moisture in the air, and it creates a more healthy and comfortable environment to work in.

### What could happen if we do not use safety measures when handling food?

- Food could become contaminated
- Customers could refuse to buy your products or make use of your services
- You can get a bad business reputation
- You could lose money
- Your stock could get old
- Consumers could become sick from consuming it
- You could lose your trading licence
- You may face legal action or fines
- You may lose your market completely

**Unclean conditions are bad for your business as customers will not be keen to buy from you.**