

# JOB ROLE – SEWING MACHINE OPERATOR

Sector – Apparel, Made-Ups and Home Furnishing  
(Qualification Pack Code: AMH/Q 0301)



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# **UNIT 5: HAZARDS IN INDUSTRY AND SAFETY MEASURES**

## **Session 1: Risk and Hazards in Industry**

# Content

Title	Slide No.
Session Objectives	4
Introduction	5
Define Risk and Hazard	6-7
Type of Hazards	8-15
Some Common Hazards, Potential Accidents and their Preventive Measures	16-17
Summary	18

# Session Objectives

The students will be able to:

- Describe about risk and hazards
- Explain types of hazards
- Demonstrate possible preventive measures

# Introduction

There are different type of machinery, it is very important to have an understanding about the safety and health measures while operating them. Many of the injuries are caused mainly by the operator's errors, carelessness and inattentiveness. It is essential that the management take important steps to protect and safeguard the operators from potential hazardous situations. It should be compulsory for the operator to follow the basic instruction to use machines, tools and equipment.

## Risk and Hazards

**Risk:** Risk is a random incident that may possibly occur, and if it occurs, it would have a negative impact on achieving organisational goals. Risk is defined as the probability that exposes one to a hazard which leads to a negative effect.

**Hazard:** A hazard is an agent having the potential to cause harm or hurt to the target. We can call the possible source of danger as hazard. Hazard is defined as any agent which can cause harm/damage/injury to human beings and their environment.

The terms 'risk' and 'hazard' are mostly used interchangeably.

There is always a risk of hazard while operating machines. They may be physical, biological, chemical, mechanical, etc. While handling tools and machines, the operators should follow safety instructions. Operator should take precautions to guard against work related hazards and accidents. Adequate planning, training and awareness workshops are necessary to train the operators, in which they must be made aware of various hazards associated with their units, and the precautions to be taken.

All the manufacturing units, whether located in a commercial or residential area, must comply and should have the necessary equipment, like fire extinguishers, hydrants, emergency exits and lights, hooters, first aids etc.

## Type of Hazards

Different work environments can pose different type of hazards and risks to the health of the operators. There is always a threat to the health and safety of people at the workplace. These may be chemical, physical, biological hazards, etc. Some common hazards and their preventive measures are given below:

### 1. Physical hazards:

They often affect many operators in the workplace for example occupational hearing loss, postural defects, falls, accidents, etc.

**(a) Hearing loss:** They often affect many operators in the workplace for example occupational hearing loss, postural defects, falls, accidents, etc.

**(b) Postural defects:** It is due to sit or stand in a particular wrong position for a long time.

Some of the problems associated with the physical environment at the workplace include:

- (i) Respiratory problems, allergies, skin problem, etc.
- (ii) A low light environment for working, and shortage of eye protective glasses.
- (iii) Repetitive Strain Injury (RSI) is likely to occur at the workplace due to long hours of sitting to complete the work and wrist joint problems can also occur during stitching work.

These problems can be solved with the following tips:

- (i) Always work with the right body posture.
- (ii) Keep the stand/machines at a height till bust level and straight wrist position to avoid bending your neck and back for a long time.
- (iii) Use wrist rests to avoid strain in the hand and wrist joint.
- (iv) Take short breaks from long sittings, maybe after an hour or two, to relax the strain in the back.

## 2. Fire hazards:

They are common in those industries that use a lot of flammable material, like cotton, chemicals, etc. Fire hazards occur mainly due to the following reasons:

- (i) Improper working of fire and smoke alarm bells in industries
- (ii) Absence of fire and smoke alarm systems in many industries
- (iii) Improper maintenance of fire exits or emergency staircase.
- (iv) Lack of proper exit route or emergency staircase to reach the place of safety

Every industry should keep fire extinguishers as a safety measure.



Fire extinguishers

### 3. Biological hazards:

These involve hazards due to bacteria, viruses and toxins. It can be due to non-airy and dark rooms, suffocation (bad ventilation), and unhygienic conditions of washrooms. These also include animal bites and stings, problems from toxic plants, and transmitted diseases through animals.

### 4. Chemical hazards:

Chemical hazards are very common in apparel and textile industry while at the time of dyeing and printing. A worker in the garment industry should practise caution while handling chemicals. The worker must be made aware of the specific instruction to be followed while handling a particular chemical.

## 5. Psychological hazards:

These could be due to a feeling of job insecurity, long working hours, lack of enthusiasm towards work, frustration about not being allowed to deliver quality product due to pressure of quantitative production, harassment at workplace and poor work-life balance. Behavioural therapy, like continuous counselling, meditation, yoga, participation in recreation centres, music therapy or occupational care are effective in reducing sick leave days and poor work efficiency at the workplace.

## 6. Electrical hazards:

These are common in the textile industry as fabrics, machines and other fire-prone equipment are being dealt with here.

Electrical accidents mostly occur when the individuals are working around electrical apparatus which is live but they think it is dead. Wrong use of equipment and use of faulty electrical equipment also causes accidents. Proper training and demonstration of work technique or process is valuable for each operator.

## Some Common Hazards, Potential Accidents and their Preventive Measures

Some other common hazards and potential accidents and their preventive measures:

Common hazards/Potential accidents	Preventive measures
Finger and hand injury	The machine must be switched off, and must be stationary before any cleaning or repair work is started.
Eye injury	Proper adjustment of the eye guard should be checked before work starts. Safety glasses should be used.
Finger injury from the needle	Setting of the finger guard should be checked before work starts
Injury from tools and equipment (drafting, cutting and measuring tools, etc.)	Shears and needles should be put at the right place after use.

# Some Common Hazards, Potential Accidents and their Preventive Measures

Common hazards/Potential accidents	Preventive measures
Electrical injury	Never use a machine with damaged covers, cables, switches, etc.
Accidentally swallowed items	Never store items temporarily in the mouth
Tripping and falling in the surrounding work area	The work area must be clean and tidy
Fire hazards: lose of life and damage to machinery due to electric short circuit or welding operation	Place MCB (motor circuit breaker), ACB (Air circuit breaker), restrict unauthorised person for welding

# Summary

In this session, you have learnt about the risk and hazards, types of hazards, some common potential accidents and their possible preventive measures.

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