

M5-EN.1. GENERAL DESCRIPTION OF LAND TRANSPORTATION SECTOR

M5-EN.1.1. Typology of land transportation workplaces

M5-EN.1.2. Typology of work equipment

M5-EN.1.3. Hazards

M5-EN.1.3.1. Notion of a hazard

M5-EN.1.3.2. Classification of hazards

M5-EN.1.3.3. Effects of hazards on human beings

M5-EN.1.4. Occupational risk assessment

M5-EN.1.4.1. Purpose and benefits

M5-EN.1.4.2. Employer's interest

M5-EN.1.5. Self-study assignment

M5.1.1.jpg

Short description of the section:

This section presents the typology of land transportation workplaces and work equipment, points out hazards inherent to a typical workplace in this sector (vehicle driver's job) **##G19##** and illustrates the benefits of risk assessment **##G26##**.

The goals of this section are:

- Present the typology of workplaces and work equipment in land transportation sector;
- Identify a typical workplace in this sector from the safety approach;
- Identify types of hazards characteristic of a typical workplace in this sector;
- Generalize effects of these hazards on human being;
- Present the benefits of occupational risk assessment.

The material of this section will help the employee, the employer or the company owner to get a general view of hazards characteristic of this typical workplace, understand the complexity of the effect these hazards produce on human beings and the benefit of occupational risk assessment.

M5-EN.1.1. Typology of land transportation workplaces

Before identifying the hazards typical of the companies of land transportation sector we have to look at workplaces and work equipment characteristic to the companies of this sector.

Employees in land transportation sector may be divided into **two main categories**:

1. The **drivers** - employees who spend most of their time not in the company but in mobile workstations. These may be local and long-distance heavy vehicle drivers, truck drivers, bus drivers etc.

2. Employees working inside the company – **administration officers, maintenance personnel and mechanics.**

Table1. Typology of workplaces in land transportation sector, depending on the type of employee activity

Type of activity	Workplace
Administration officers	Administration premises, vehicle cabin
Drivers	Heavy vehicle cabin; Truck cabin; Bus cabin and the like.
Vehicle service technicians	Vehicle maintenance and service shops
Service personnel	Administration premises, vehicle maintenance and service shops

M5-EN.1.2. Typology of work equipment

Depending on the job type the following work equipment used by employees in this sector may be distinguished (see Table 2).

Table2. Typology of work equipment in land transportation sector depending on the type of a workplace

Workplace	Work equipment
Administration premises	Computer, office equipment, electrical appliances
Vehicle cabin	Vehicle
Heavy vehicle cabin	Heavy vehicle
Truck cabin	Truck
Bus cabin	Bus
Other	Other
Vehicle maintenance and service shop:	Portable power tools, forklifts, welding equipment, painting and drying chambers

In companies of land transportation sector most of work places are different type vehicles; therefore workplace safety is mainly influenced by the state of the vehicle. To meet the stringent employee safety and health requirements companies started purchasing new and safe vehicles or modifying the available vehicles provided their technical specifications enable such modernization.

Nevertheless, land transportation sector exhibits one of the highest rates of occupational incidents and professional illnesses.

M5-EN.1.3. Hazards

M5-EN.1.3.1. Notion of hazard

Hazard ##G19## is the source of potential injury or health impairment. The word “hazard” is most commonly used along with the words describing the type of potential injury or health impairment: electrical hazard, crushing hazards, cutting hazards, intoxication hazard, fall hazard, burn hazard, explosion hazard etc.

Often **hazard** is confounded with **risk ##G22##**, although these two things can neither be confounded nor be used alternatively. The difference between **hazard and risk** is explained in the following way:

Hazard is the intrinsic characteristic of a material or a system (e.g. petrol is hazardous because it can inflame), whereas **risk is an external feature** (e.g. an upturned petrol truck poses high risk).

Sometimes it may seem that it is easier to protect from hazards than to manage risk situations. Sources of hazard are most often eliminated by **technical** decisions. In risk management in addition to technical decisions there are (especially) **organizational** and **human (personal)** decisions. Employee’s activities shall be arranged in such a manner that conditions of taking dangerous actions and offering inadequate variants of problem solution are eliminated.

M5-EN.1.3.2. Classification of hazards

A driver works in a typical workplace in land transportation sector. Thus hazards faced by a driver in a typical workplace are presented here and analyzed in more detail.

These hazards are divided into the following groups:

1. Mechanical hazards;
2. Electricity related hazards;
3. Hazardous substances;
4. Biological hazards;
5. Fire and explosion hazards;
6. Thermal hazards;
7. Hazards related with multiform physical effect;
8. Hazards related with working environment;
9. Physical loads / difficulty or work;
10. Awareness and ability to adapt;
11. Other hazards/loads;
12. Mental loads;
13. Organization.

When typical hazards of operations in land transportation sector are determined, it is easier to identify and assess the risk in a specific workplace of a land transportation company. Thus every employer or a company owner may easily accomplish risk assessment of a specific workplace on the basis of the types of hazards presented above.

M5-EN.1.3.3. Effect of hazards on human beings

The effect of each above-listed type of hazard on human health in a typical workplace of a land transportation company shall be determined.

A general conclusion is that a driver holding a job in a land transportation company (working in a typical workplace) may experience body injuries of different seriousness including fatal. The scope of harm and injuries first of all depends on the type of hazard concerned. Exposure to different types of hazard may result in mechanical damage of all body parts, different degrees of burns, breathing disorders, blood vessel obstruction, uncontrolled movements, intoxication, loss of consciousness etc.

Some types of hazard more often lead to occupational illness. For instance, vibration and noise in transportation sector are hazards causing the most frequent occupational illnesses (Vibration White Finger and deafness) among employees in this sector.

M5-EN.1.4. Occupational risk assessment

M5-EN.1.4.1. Purpose and benefits

The goal of occupational risk assessment in land transportation sector is:

- To analyze the present and potential occupational risk at workplace; and
- Estimate preventive measures in order to protect employees from occupational risk or to mitigate the risk as much as possible to improve prevention of accidents and occupational illnesses.

Risk assessment reveals the real view of work safety and working conditions. The findings of risk assessment help to improve working conditions which consequently advance the effectiveness of the company's operations and protection of employee health and safety. Risk assessment assists in monitoring the situation and avoiding accidents and incidents at work in land transportation sector;

Good and healthy working conditions guarantee better working capacity and performance of employees.

It should be noted that failure to implement safety measures sooner or later would result in accidents and injured employees in the event of hazards or **hazardous situations ##G17##**. However the employers or company owners must be aware that low rate of accidents at work, light type or absence of accidents should not lead to the assumption that the company is a low-risk company and the should not stop assessing the risk.

Absolute safety is an unattainable goal, therefore the purpose is to achieve the **highest possible level of safety**.

Without assessing risk to employee health and safety it is impossible to control it.

M5-EN.1.4.2. Employer's interest

Head of any company in land transportation sector should be concerned about evaluating occupational risk in a specific workplace (in this case – the driver's) for the following reasons:

- Lower costs related with accidents and occupational illnesses; a bigger part of profit can be allocated to enhance the company's competitiveness.
- Better working conditions encourage higher performance and ensure quality of work.
- Good risk management and fewer crises lead to better dialogue with employees and their representatives.
- No fatal or serious accidents guarantee good image of the company.
- Good risk assessment management saves time that otherwise is wasted in evaluating risk according to "ad hoc" principle.

M5-EN.1.5. Self-study assignment

Evaluate your comprehension of the material analysed in this section by performing a self-assessment test **##D1##**. Check your answers against the key **##D2##**.