



DATA SHEET

Warehouse and logistics risk prevention



Warehouse and logistics risk prevention is a LUDUS-oriented product to raise awareness and report the main risks in warehouses and logistics environments.

The goal is to provide the trainer with a virtual scenario in which the student can observe an environment in which logistical accidents can occur and evaluate the understanding of he/she

This product includes a list of risks related to PPEs, machinery handling, general safety standards and safe behavior when handling load. The student must witness different risk situations, as well as perform routine tasks on his or her own where there may be risks.

01 Simulation content

Description of the exercise

Part 1- Placing PPES

The student starts in a locker room where he or she will have several PPEs that can be observed and placed.

It will have around it several posters indicating the PPEs that are mandatory in that plant

PPES available in the first version

Cut-resistant gloves

Chemical resistant gloves

Reflective vest

Safety boots

Safety glasses

Cold clothing and gloves



Description of the exercise

Part 2- Walk around the plant

Once properly equipped, the student goes out to the warehouse and is told sequentially the tasks to be performed. The list and order of these tasks are defined by the trainer before the exercise begins.

Some tasks require some action to understand the reason (such as picking up a strap and discarding it correctly). Other actions will be based on witnessing an accident and answering a question about the cause of the accident.

Exercise resolution

At the end of the last task in the list, the student will see on a results screen



Exercise Time

The trainer chooses the list of tasks that want to be performed, so the exercise can last between 5 and 20 minutes.

If the trainer wishes, if the student has made mistakes, he or she has the option to repeat the exercise until he or she deems it necessary.

In case an exercise is taking too long, the trainer can also force the end of the exercise at any time and go straight to resolution to see the mistakes made up to that point.

Future updates will include other scenarios of different sizes and variety of risks that may offer shorter or longer times per exercise.



Risks included:

Manual container unloading

Excessive physical efforts (by weight, by merchandise above the shoulders...)

This task explains to the student that he/she should not raise the boxes above men.

Drop of detached boxes

The student must reposition a box to prevent another operator being harm.

Cuts when using non-safety cutter or without gloves

The student must use a cutter to cut a strap. To avoid cutting himself/herself, he or she should wear the PPEs and use the safety cutter.

Stumbles with strapping, boxes... for lack of order and cleanliness

The student must collect a strap to avoid tripping.

Excessive physical efforts when lifting/lowering doors of unhealthy manual docks

The student must open one of the dock doors. In doing so, he or she is explained the position he or she should take safely.



Risks included:

Loading and unloading with electric pallet truck

Falling the pallet truck down the dock, not being attached and braking the truck

The student contemplates that a pallet truck falls down the dock, must correct the cause of the accident.

Crushing another worker or carrier by being inside the truck while loading/unloading

Upon entering to catch a load, another vehicle enters without looking and crushes the student against the boxes.

Crashes and crushes with other machines, loading two pallet trucks at once on the same truck

The student witnesses a clash between two pallet truckers and must correct the cause of the accident.

Falling empty pallets on the worker, unloading pallet towers without electric pallet truck with protective grid

A worker with a pallet truck without a protective grid suffers a drop in boxes.

Hits with the bars of the trucks, which are not fastened and detach with the movement of the machine

The student must pick up the truck bar to prevent it from detaching.



Risks included: Loading and unloading with electric pallet truck (II)

Crushing the head or other parts of the body, by peeking out to give instructions as the truck backwards

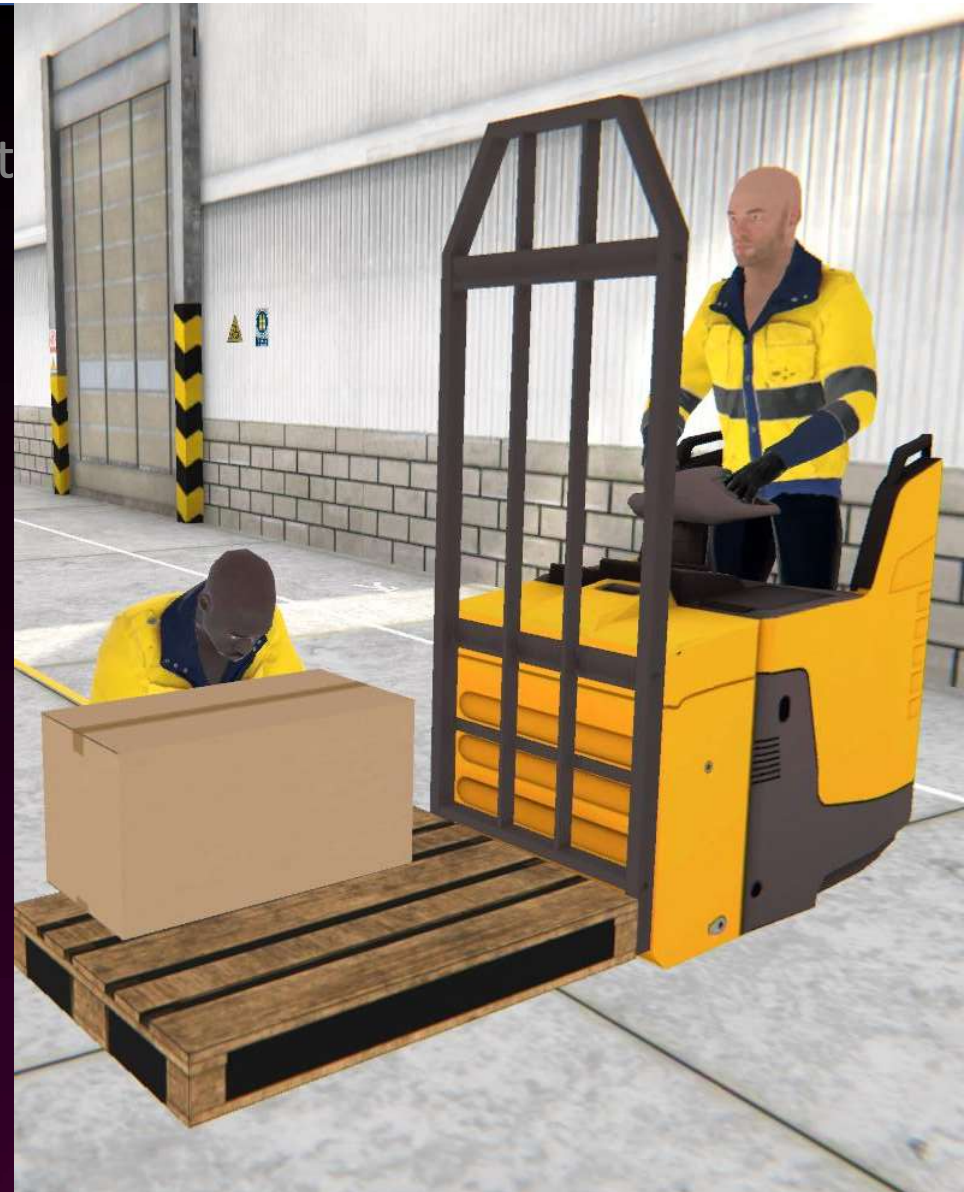
The student presence as a worker is crushed with a truck. He or she must answer what has been the bad practice performed.

Crushing by getting off the running machine or carrying body parts out of the machine

The student observes a pallet truck driver who gets off the pallet truck and has an accident. He or she must guess the security measure he or she should have taken.

Cuts when using non-safety cutter or without gloves

The student must use a cutter to cut a strap. To avoid cutting himself or herself, he or she should wear the PPEs and use the safety cutter.



Risks included: Work next to loading docks

Clashes between machines, being the areas very close together

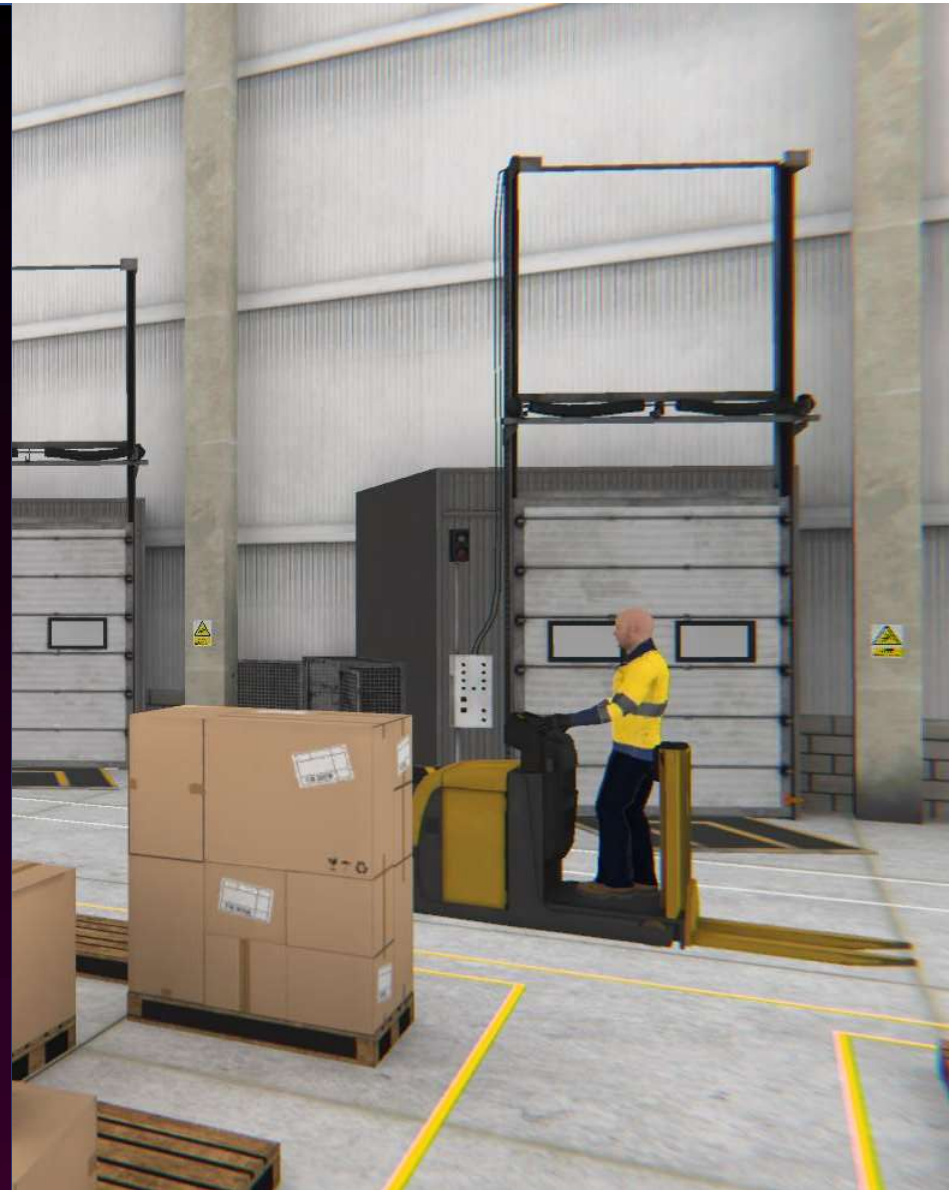
The student witnesses a clash between two machines that do not respect safety distances.

Running over people in truck loading/unloading areas

The student contemplates how in the unloading area, a worker is run over. He or she will need to answer the reason for the accident.

Clashes and crushes with the pallets in the loading/unloading areas

The student should check some pallets loading/unloading areas and suffers a crush between two pallets due to another worker who hits he or she with a machine.



Risks included: Preparing Orders (I)

Shocks or crushes against shelves, to be prepared with the order picker very close to the location

There is a shock between a shelf and a order picker by not respecting the minimum distances.

Crushing by reach truck load drops and not keeping the safety distance

The student must go to the shelves. If he or she is placed too close to the reach truck, the boxes come off and fall on he or she.

Collisions and crushes against machines that do not keep the safety distance

There is a crush between machines.



Risks included: Preparing Orders (II)

Crushing by getting off the running machine or carrying body parts out of the machine

The student observes a order picker who gets off the pallet truck and has an accident. He or she must guess the security measure he or she should have taken.

Cuts when using non-safety cutter or without gloves

The student must use a cutter to cut a strap. To avoid cutting himself or herself, he or she should wear the PPEs and use the safety cutter.

Stumbles with strapping, boxes... for lack of order and cleanliness

The student must collect a strap to avoid tripping.

Load drops in preparation, or when driving with it without strapping

The student observes how a order picker circulating with the unloaded load, suffers a drop of boxes on the operator who drives it.



Risks included: Shrinking of merchandise

Excessive physical efforts, being manual and not rotating

The student observes how to properly shrink the merchandise.



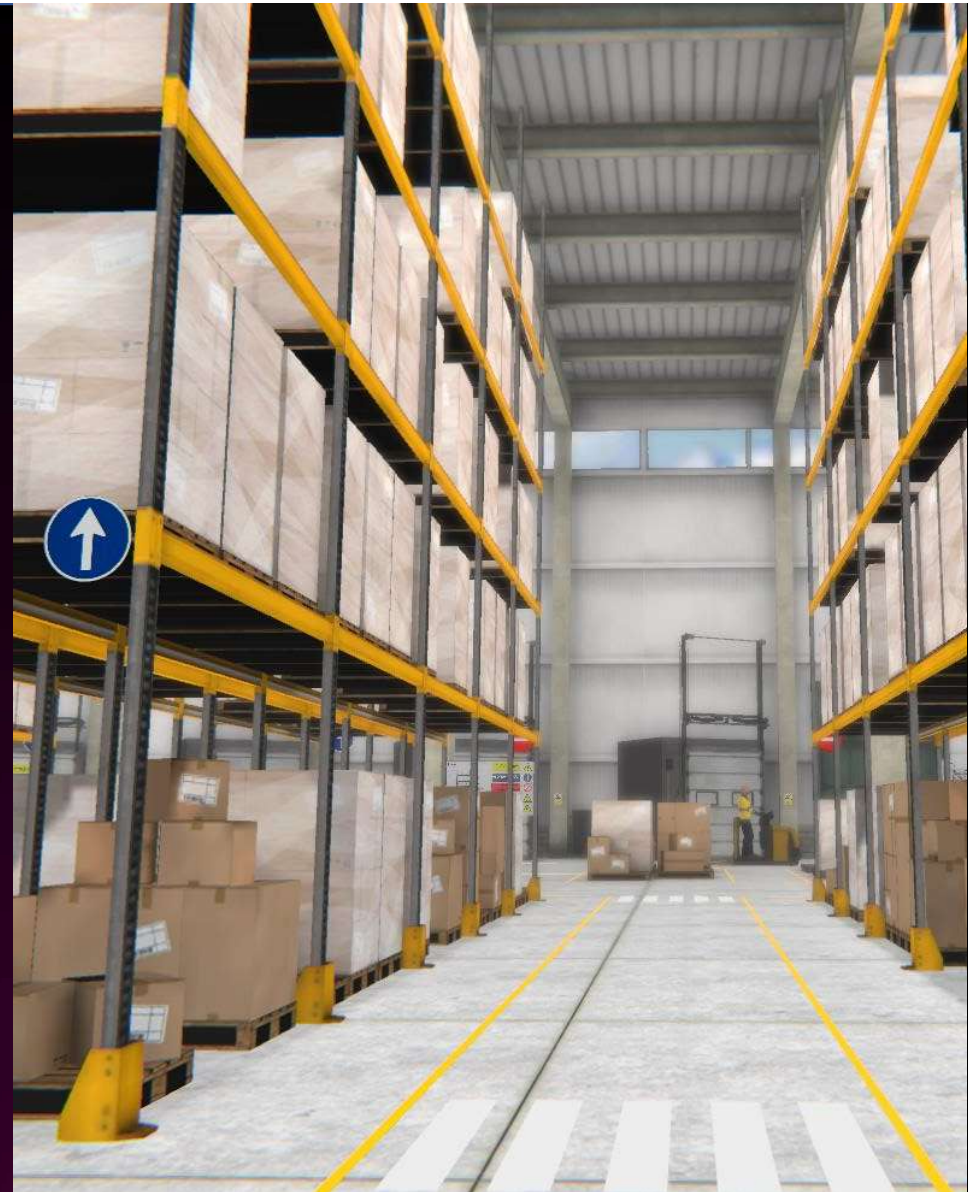
Risks included: Shelf location

Drops of loose boxes due to not being strapping pallets or full pallets due to bad location, unmanifested blows...

The student observes a drop of boxes of a pallet on the shelf that was not strapped.

Collapse of the shelves, caused by poor assembly, overloading, beatings, etc..

The student observes a shelf crash and must correct the reason for the accident.



Risks included: Batteries

Fires or explosions, for welding or sparking, near hydrogen during loading

Before starting, the user must be equipped with the mandatory PPEs in the plant.

Hand entrapments when changing batteries (between battery and car)

During the student entire stay at the industrial plant, the user must travel along the crosswalk route. If he or she doesn't, he or she will stop exercising.

Excessive physical efforts when pushing the battery during the changeover

There will be several crosswalk that the user will need to cross carefully to avoid being hit by vehicle.

Acid burns when handling batteries and not safety glasses or gloves

The industrial plant has areas where passage is prohibited. If the student tries to access one of these areas, he or she will make a mistake in the exercise.



Risks included: Breakage area

Cuts or punctures, for not wearing protective gloves

The student should go to the breakage area and pick up some bottles. If he or she doesn't wear protective gloves, he or she will have cuts on he or she hands.

Stumbles with strapping, boxes... for lack of order and cleanliness

The student must collect a strap from the breakage area to respect the cleaning and avoid tripping.



Risks included: Cool store

Risk of freezing parts of the body, for not wearing proper cold clothing

The student must enter one of the cool store. To do this, the user must equip himself or herself with PPEs that protect him or her from the cold (gloves and clothing). If he or she don't, he or she will be damaged by frostbite.



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Statistics system

Basic statistics

Deployed to the user at the end of the simulation

- Exercise time
- List of mistakes made