DATA SHEET

Virtual Reality Training for Confined Spaces

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Virtual training in confined spaces is a LUDUS product oriented to instruct and evaluate operators in the operation and main risks related to confined spaces.

The goal is to provide the trainer with a virtual scenario in which the student has to monitor a task as a prevention officer and make sure it is done safely.

The student will be able to perform the exercises in a guided way to learn the steps, as well as perform them without help being evaluated.

The trainer can see the mistakes the student made at the end of the exercise. Some errors can cause an accident to the operator who is performing the task.

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Simulation content

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PPEs and auxiliary media of simulation

Own PPEs available

- Safety helmet with chin strap
- Gloves for biological protection
- Gloves for mechanical protection
- Safety shoes
- Safety glasses
- Disposable overall
- Safety harness
- Gas meter
- Self-contained breathing apparatus
- Half mask with protective respiratory filter

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PPEs and auxiliary media of simulation

Auxiliary media available

- Communication equipment
- Tripod and lifeline
- Gas meter
- Signaling elements (cones)
- Fire extinguisher
- First aid kit
- Security flashlight
- Drinking water tank for personal cleanliness
- Forced ventilation equipment

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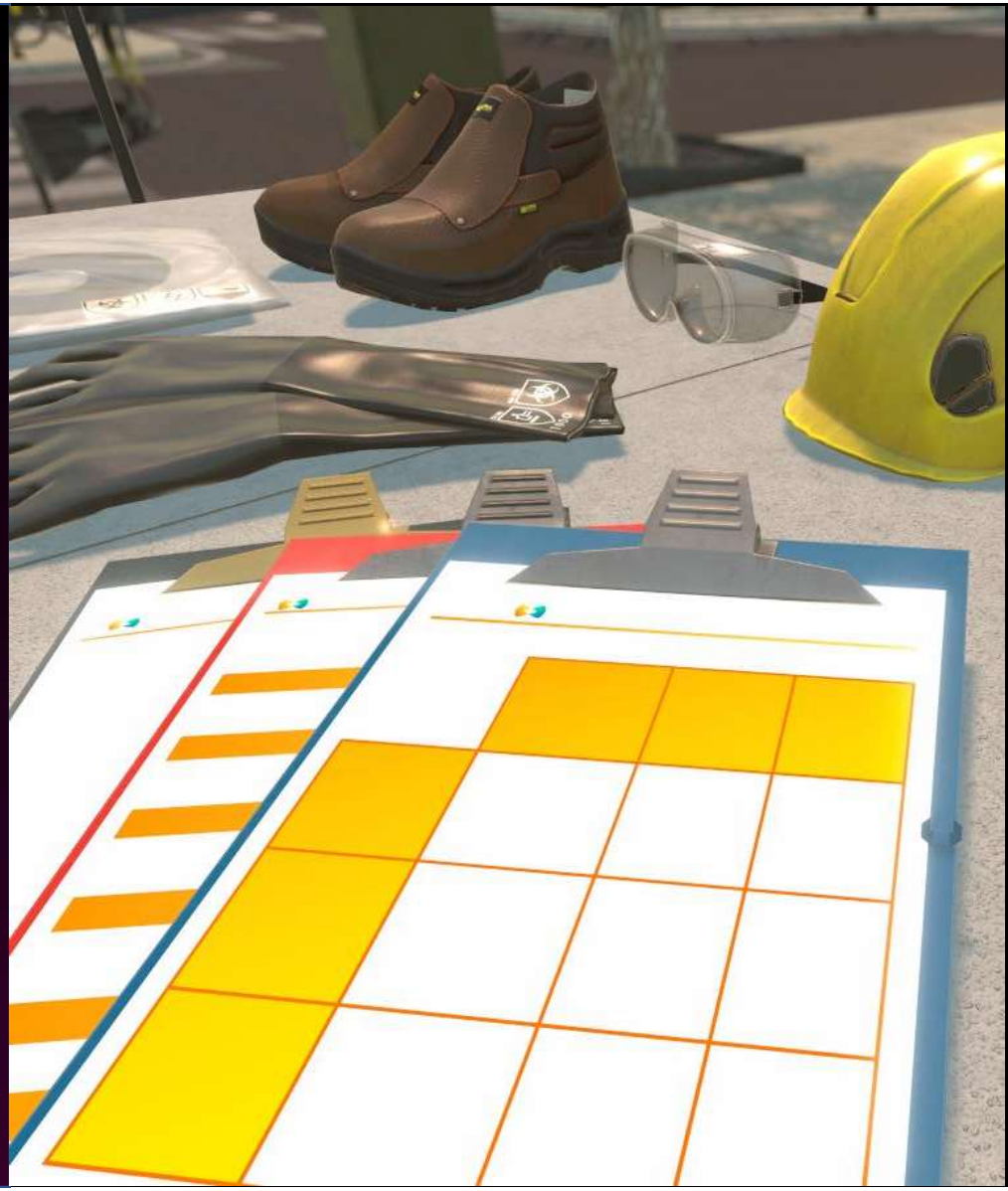
PPEs and auxiliary media of simulation

Several documents related to safety procedures for confined spaces should be consulted during testing.

PPEs may be marked in the verification guide, sign documents, record measurements and check-in and check-out times.



Documentation included

Emergency plan and evacuation sequence

- Verification guide
- Entry permit
- Work authorization

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Sewerage inspection exercise

The student puts the role of a prevention officer. He or she must monitor an operator during the inspection of a sewerage.

He or she must read the work authorization, select PPEs, make necessary measurements and ensure that the operator entering the confined space does so safely.

Approximate duration of exercise: 20 minutes

Procedure

- Read work order
- Perform checks and select PPEs for the incoming person
- Measuring toxic gases from the outside
- If necessary, ventilate
- If necessary, wait and re-measure from the outside
- If all is correct, authorize the incoming operator to access the space
- Stay in touch with the operator until the task is complete

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Sewerage inspection exercise

Toxic gas presence variant (hydrogen sulfide)

Possibility that toxic gas may be detected when using the detector. If the student does not detect it and allows the operator to access the space, the operator will suffer an accident.

Variant of flammable gas presence (Methane)

Possibility that flammable gas (methane) may be detected when using the detector. If the student does not detect it and allows the operator to access the space, the operator will suffer an accident.

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Sewerage inspection exercise

Self accident of eye damage

When the lid is opened, toxic gases are released and the student suffers damage to the eyes and falls to the ground. The exercise ends immediately.

Third-party operator fall accident

If the lifeline tripod is not installed, when the operator is authorized to enter, the operator enters and falls immediately. The exercise ends immediately.

Third-party toxic gas inhalation accident

If the half mask and filter are not properly inspected, when the operator is authorized to enter, the operator descends into the enclosure and inhales toxic gases. The exercise ends immediately.

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Statistics system

Basic statistics

Basic statistics shown to the user at the end of the simulation

- Duration of exercise
- Protocol step completed
- List of mistakes made
- In the event of an accident, additional information on damage received and avoided

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Future updates

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Supply network inspection exercise

The student puts the role of a prevention officer. He or she must monitor an operator during the inspection of a supply network.

He or she must read the work authorization, select PPEs, make necessary measurements and ensure that the operator entering the confined space does so safely

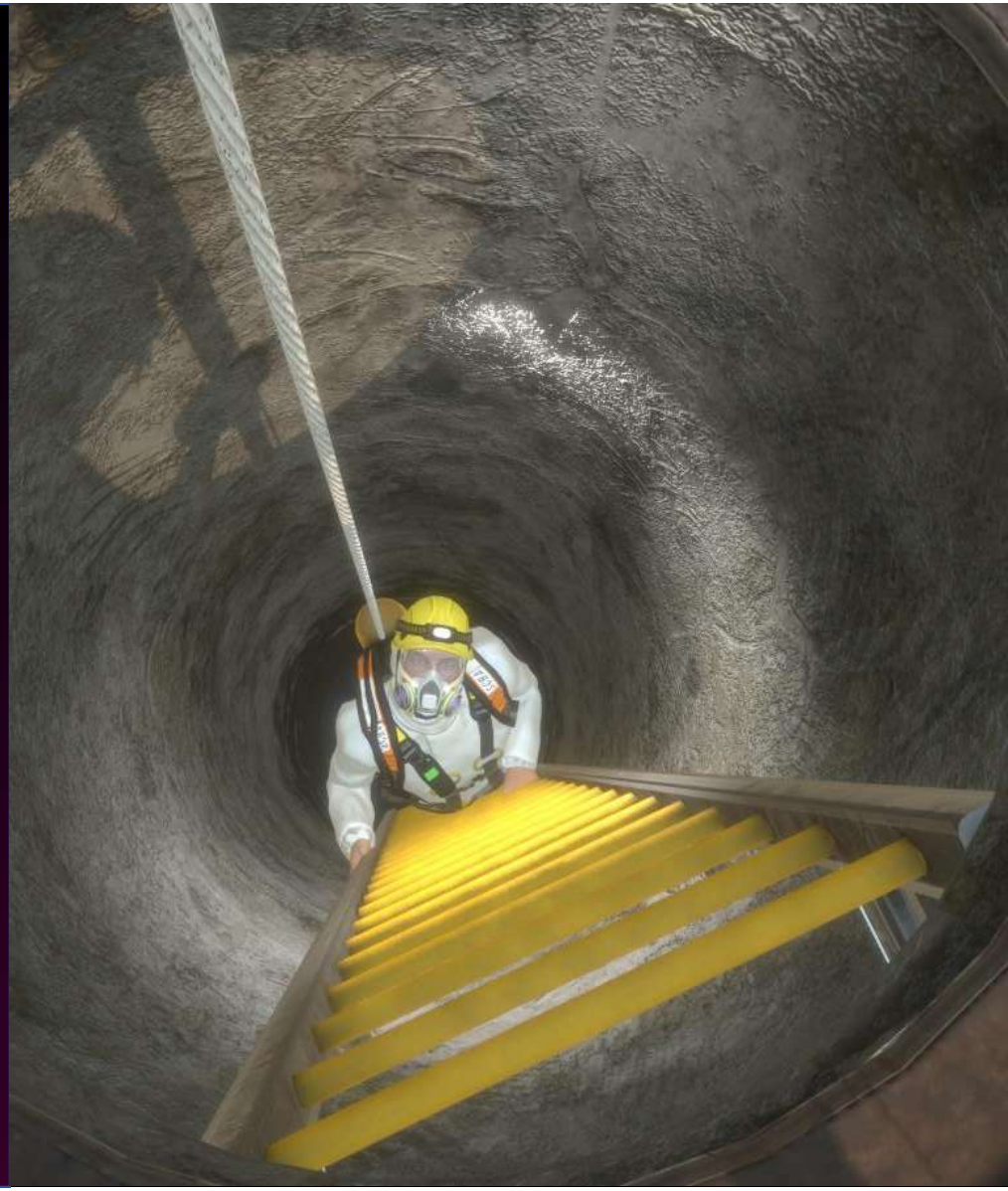
Variants

- Low oxygen concentration

Possibility to detect a low concentration of oxygen in the environment.

- Tool left near the entry

Near the entry, there are tools that must be picked up before starting the operation



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Supply network inspection exercise

The student puts the role of a prevention officer. He or she must monitor an operator during the inspection of a supply network.

During the task, the operator stops contacting and does not respond. The prevention officer implements the emergency protocol and must use the correct tool to rescue the operator.

Variants

- Accident with minor injuries

When the accident occurs, the operator has minor injuries. The student must apply the protocol using the first aid kit to care for him/her.

- Major accident

When the accident occurs, the operator becomes unconscious. The student must apply the protocol by calling the emergency services.

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