

Accident analysis



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Accident: unplanned event that results in damage to people, property (e.g. laboratory, equipment), or the environment.



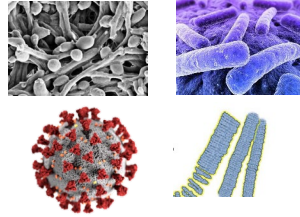
Incident: accident without damage to people.

What causes accidents in the workplace?

Chemical hazards:



Biological hazards:



Physical hazards:



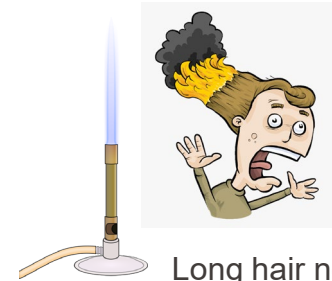
Technical failures
account for 2 % of all
workplace accidents



Protective
glasses not used



Sash fully open



Long hair not
tied back

Unsafe behaviors account for
97 % of all workplace accidents

97 %

Unsafe behaviors: why are there?



Lack of comprehensive hazard and activity knowledge

- Safety training
- Read the safety data sheet
- Read the instruction manual
- ...



Diversity of individuals

- Different training and experience
- Different cultures
- Different values
- ...



Diversity of situations

- Co-worker safety practice
- Management commitment to safety
- Safety recognition
- ...



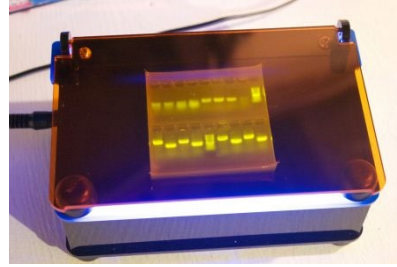
Why

Accident analysis is carried out **to determine the cause** of an accident aiming **to prevent or reduce the likelihood and gravity** of further accidents of a similar kind.

How

1. Gather useful information and analyze the **facts** surrounding the accident
2. Write the accident report (sequence of events)
3. recommend corrective actions and system improvements
4. Follow up

Example 1: Skin burn

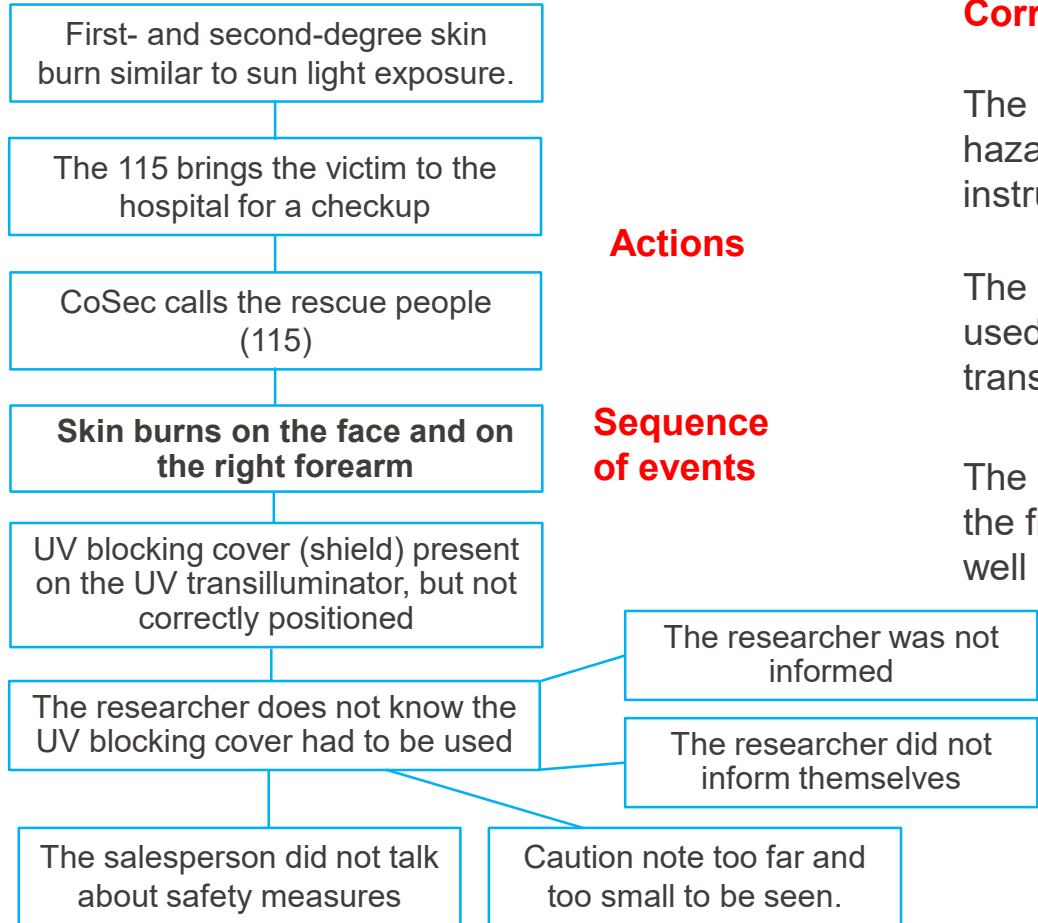


UV
transilluminator

A few hours after using a UV lamp for processing an agarose gel, a **skin burn** occurred on the **face** and on the **right forearm**.

UV burns can cause skin cancer, premature aging, cataracts and other eye damage, immune system suppression.

Example 1: Skin burn



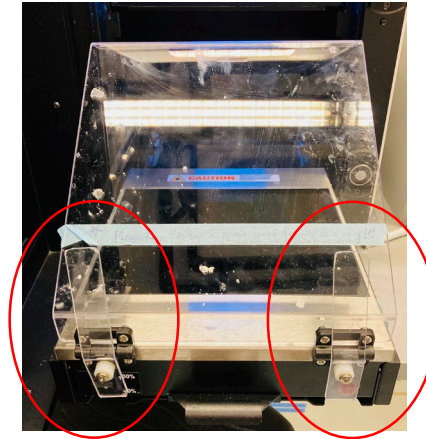
Corrective actions

The CoSec reminded the lab members the hazards associated with the scientific instrument and informed the salesperson.

The CoSec acquired a UV face shield to be used when working with the UV transilluminator and to be kept close to it.

The CoSec displayed in big characters on the front of the machine the caution note as well as the UV light pictogram.

Example 1: Skin burn



System improvements



Before, the UV blocking cover (shield) could be positioned down to 180° impeding protection.

Then, the EPFL workshop installed two brakes to block angling at 60°.

Accident.
Unsafe behavior.
Predictable and therefore avoidable.

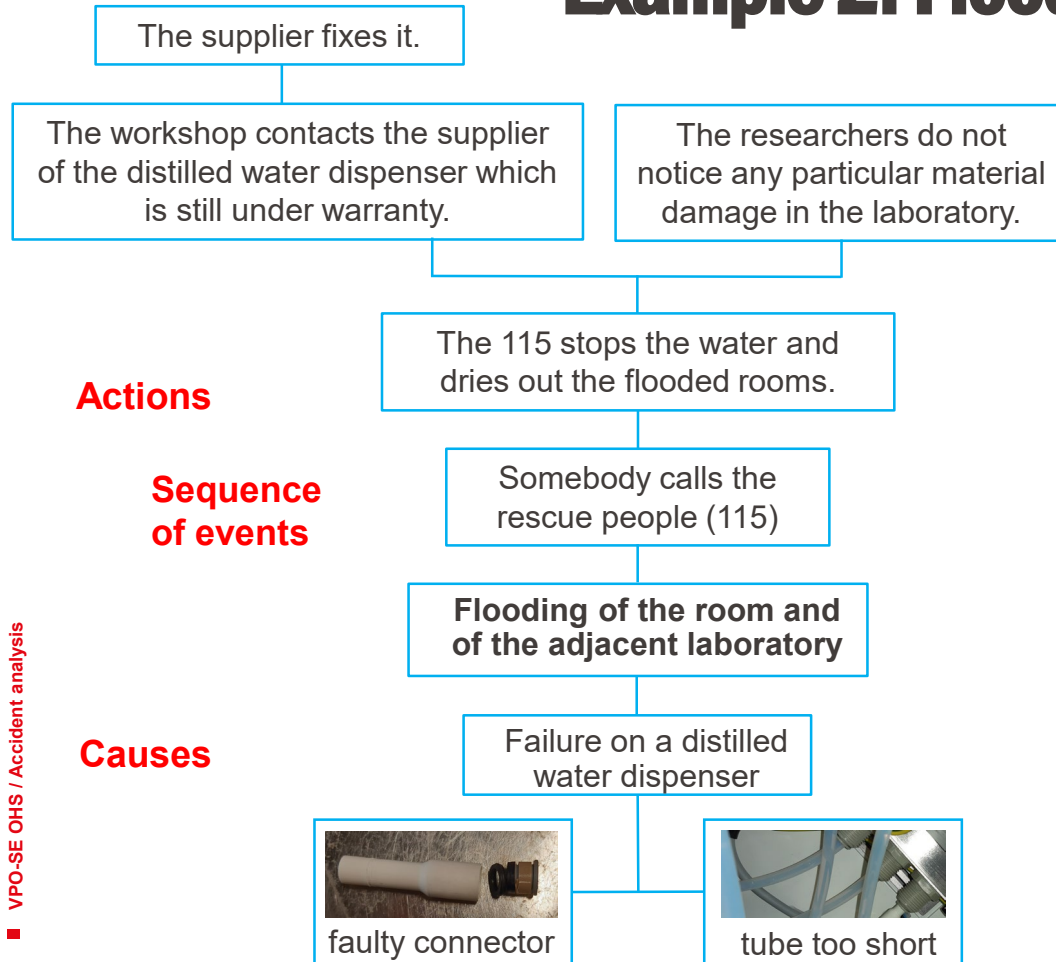
Example 2: Flooding



Internal breakdown on a **distilled water dispenser**, which resulted in the flooding of several workspaces in the unit.

Floods in the laboratory can cause serious damage to equipment and personal injury.

Example 2: Flooding



Actions

Sequence of events

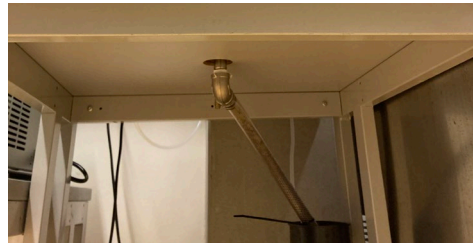
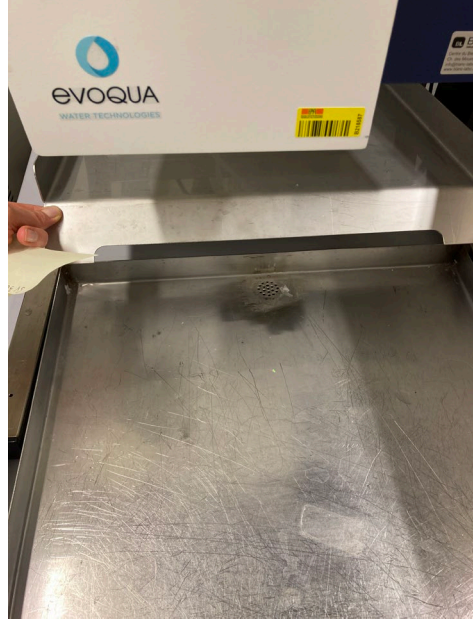
Causes

Corrective actions

The **maintenance** of the machine is done with a frequency of 6 months by the workshop.

CoSec makes sure that **multi-sockets** are elevated from the ground and attached to a wall, table or a support.

Example 2: Flooding



System improvements



The EPFL workshop installed a **larger retention tank** to cover the entire surface of the machine. This retention tray is **connected to a water drainage system**.

Incident.
Technical failure.
Unpredictable.

New flood
detection system.



■ VPO-SE OHS
Occupational
Health and Safety

CoSec Newsletter | **New Incident Manager Interface**

#8

December / Décembre 2022

[Lire ce message en français \(ci-dessous\)](#)



1. On the OHS Laboratory Safety webpage
2. On the OHS ticket
3. On the CoSec webpage
4. On the Security and Operations Services & Support webpage

Announcement of an accident in the laboratory

This form allows COSECs and users to report an incident that occurred in an EPFL laboratory

Accident/Incident analysis aims to prevent future accidents by determining the root cause and to lead to corrective actions to prevent or reduce the number of accidents in the workplace.
Please note that for accidents that require medical follow-up, the human resources have to be notified (assurances.sociales@epfl.ch) for the work insurance to cover the medical expenses. See also [Laboratory safety](#)

* Indicates required

<p>*This request is for</p> <div style="border: 1px solid #ccc; padding: 2px; display: flex; align-items: center;"> i <input style="width: 90%; border: none;" type="text" value="Simona Frateschi"/> x v </div>	<p>Accreditation</p> <div style="border: 1px solid #ccc; padding: 2px; display: flex; align-items: center;"> i <input style="width: 90%; border: none;" type="text" value="OHS-PR"/> x v </div>
<p>*Date of the event</p> <div style="border: 1px solid #ccc; padding: 2px; display: flex; align-items: center;"> <input style="width: 80%; border: none;" type="text" value="YYYY-MM-DD"/> 📅 </div>	<p>*Time of the event</p> <div style="border: 1px solid #ccc; padding: 2px; display: flex; align-items: center;"> <input style="width: 90%; border: none;" type="text" value="hh:mm (24h)"/> </div>
<p>*Place/local/laboratory of the incident</p>	<p>*Unit concerned</p>

- **Incidents / accidents have to be announced even if you called 115 !**
- For accidents that require medical follow-up, the **human resources have to be notified** (<https://www.epfl.ch/campus/services/human-resources/suva-assurance-accident/>) for the work insurance to cover the medical expenses.

**Thanks for your
attention!**

