

Rules for the Use of the Internal Distribution System of Hydrogen



1. Initial Considerations

- The internal distribution system of hydrogen (IDSH) of the Department of Chemistry and the Technological Laboratories of the University of Aveiro has specific points of utilization inside rooms 15.2.29, 29.1.05, 29.1.13, 29.2.10, 29.3.19 and 29.3.21.
- The IDSH is composed of two independent partial pipelines, one in building 15 (Chemistry) and the other in building 29 (Technological Laboratories), connected to the central cylinder gas storage house located in-between the two buildings.
- The access to the gas storage house is restricted to authorized staff. Authorization is conceded, canceled or renewed solely by the President of the Directing Board of the Department of Chemistry.
- When specific equipment is not being used, the safety shutoff valves in each point of utilization must be, without exceptions, closed.
- Rooms with points of utilization should have, without exception, a hydrogen leaking detector.
- The hours of opening and closing of the hydrogen pipeline (global or partial according the formal electronic requisition) should be registered and signed in a specific log book by the authorized member of staff.
- All Professors/Researchers which are authorized by the Safety Commission to open the partial pipelines of hydrogen should be trained for that purpose. Dr. Dulce Helena Teixeira will be responsible for the individual training.

2. Opening of the Hydrogen Pipeline during Working Days

- The opening of the hydrogen pipeline will be performed by authorized members of staff after formal requisition to the Stores by electronic mail (armazem.gases@dq.ua.pt) in the day prior to that of the utilization.
- The electronic message should contain the following information: identification of the pipeline to be opened (HYDROGEN), time of opening, predicted time of closing, user, equipment, building and room.
- The requisition for the opening of the hydrogen pipeline by e-mail is only allowed to:

Anabela Valente

Armando Silvestre

Carlos Manuel Silva

Carlos Pascoal Neto

Celeste Azevedo

Dmitry Evtugin

Dulce Helena Teixeira

Filipe Figueiredo

Filipe Oliveira

Manuel António Coimbra

Mário Simões

Pedro Costa

Sílvia Rocha

Teresa Gomes

Valdemer Esteves

3. Closing of the Hydrogen Pipeline during Working Days

a) Closing during normal working schedule (before 17:30 pm)

- The hydrogen pipeline will be closed at 17 hours and 30 minutes. The procedure will happen in three different locations: at the gas storage house, in the central shutoff valve of building 15 (Chemistry) and in the central shutoff valve of building 29 (Technological Laboratories).
- Only the following members of staff are allowed to close the hydrogen pipeline:

Ana Paula Fernandes

António Morais

Tiago Thorn

Dulce Helena Teixeira

Pedro Alves

b) Closing after 17:30 pm

- In exceptional cases, the partial hydrogen pipelines could be closed after 17 hours and 30 minutes. In these cases, the shutoff of the partial hydrogen pipeline could only be performed by authorized users.
- Potential authorized users:
 - i) Professors/Researchers after formal request to the Safety Commission.
 - ii) Ph.D. students and post-doctoral research associates after formal request by their supervisor to the Safety Commission and official granted authorization.
- This procedure should direct the following rules:
 - Authorized users to close the partial hydrogen pipelines should ask until 16:00 pm at the Stores of the Department of Chemistry the access keys to the main shutoff valves of their building.
 - The presence of another researcher in the building is mandatory, preferably in a nearby location to that of the instrument connected to the hydrogen pipeline, and with knowledge that the instrument is in use.
 - The authorized user is responsible for the safe closing of the partial pipeline of hydrogen at the shutoff valve of the building.
 - In the immediately following working day the key should be returned in person to the Stores. The delivery should be registered by the member of staff and signed by the authorized user.
 - If no formal request for the opening of the hydrogen pipeline is filed for the immediately following working day, the central shutoff at the gas storage house will be performed at 09:30 am by an authorized member of staff.

4. Use of the Hydrogen Pipeline Before 09:15 am during Working Days, at Weekends or at National Holidays

- The use of the hydrogen pipeline on working days before 09:15 am, at weekends or national holidays is of exceptional nature and will abide by the following rules:
 - The opening of the partial hydrogen pipeline is only allowed to Professors/Researchers who have filed a formal request to the Safety Commission. They should be responsible for opening in person and safely the partial hydrogen pipeline at the shutoff valve.
 - The authorization for the opening of the partial pipeline during working days prior to 09:15 am, at weekends or at national holidays is not eternal. The authorization will be valid only for the period determined by the Safety Commission.
 - The authorized Professor/Researcher should ask for the access keys to the safety shutoff valves of the partial hydrogen pipeline of their building on the day prior to the utilization.

- The presence of another researcher in the same building is mandatory, preferably in a nearby location of the room with the instrument connected to the hydrogen pipeline, and having knowledge that the instrument is being used.
- The closing of the partial hydrogen pipeline at the safety shutoff valve will be performed by the Professor/Researcher who asked for the keys or by a Ph.D./post-doctoral student if they are an authorized user by the Safety Commission.

5. Safety Notice

- The use of chromatographers or other instruments connected to the hydrogen pipeline will only be authorized after filling the SAFETY NOTICE. This notice should be posted in a visible location next to the instrument or outside the room (if the door is closed).
- It is mandatory to have a daily registry of utilization of each instrument connected to the hydrogen pipeline.
- If the absence of the safety notice in a working instrument is detected, the Safety Commission reserves the right to close the instrument shutoff valve.

NOTICE

In this case, the responsibility for the damages inflicted to the instrument or the research work in progress is solely of the users in charge of the work or of the utilization of the instrument

- The safety notice should be filed in the safety briefcase of the room after the use of the instrument and the secure closing of the hydrogen pipeline.