



Fire safety

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Fire safety

The departments and fire safety organisation of Neo have adopted a fire protection policy where the principles for our systematic fire protection work are stated.

The heads of the departments have appointed fire safety supervisor to lead this work¹. For the daily surveillance the group leaders have appointed a number of fires safety monitors for specific areas of Neo². Moreover, there are evacuation stations in different areas of Neo.

Your contribution is crucial for the fire protection to work, i.e., to avoid that a fire will start and if it does, to know how to act in order to minimize the damages. Therefore, you should know the location and basic functions of the firefighting equipment (fire-extinguisher, fire-blanket, and hose), the emergency shower and alarm button. In case of a major fire the doors to the affected building-module/"fire cell" will be closed automatically to restrict the fire. It is therefore important that these doors close properly and that no items are placed so that they interfere with closing of them.

¹ See sections "Fire safety organisation and "Delegation templates and role description" in <https://staff.ki.se/fire-safety>

² See section "If the fire alarm is activated" in <https://staff.ki.se/fire-safety>

In case of fire³ and other emergencies⁴

Save lives - Alarm - Extinguish

The most important thing is to **save lives**.

Therefore, in case of fire:

- Check if any person is in immediate danger.
- If the clothes of someone are on fire, get the person down on the floor and use a fire blanket or some clothes to put out the fire.

Alarm by

- Press the alarm button in the corridor near you.
- Call the Fire Brigade (Brandkåren) - 112. The Fire Brigade will come even if you only push an **alarm button**, but without rushing and if busy somewhere else, they will come when they find the time

Extinguish

- If possible, try to extinguish the fire

Evacuate

- If not possible to extinguish – evacuate the building
- Make sure everyone leaves the area.
- Close doors, windows, and hoods to restrict the fire.
- Do not use elevators

If you judge it not to be too dangerous you should try to put out the fire. Carbon dioxide extinguishers are the most common ones in the labs and could be used for most types of fires, including those in electric equipment. Foam extinguishers are more efficient for more extensive fires and for fires in the office.

Evacuation

When the fire brigade has been called and the fire has not been extinguished or it is judged too dangerous, the building should be evacuated. Study in advance where the emergency exits are (maps/signs on walls at exits and in certain corridors) so you know how to get out from the rooms and areas where you work. Never use elevator when evacuating the building. The assembly site for the staff is the area between Neo and TAH buildings (the Contemplation Courtyard), see Ch. "Assembly point after an evacuation of the building".

Evacuating a building in a safe and controlled manner requires an effective strategy and organisation. Karolinska Institutet and Neo do not have appointed fire wardens. Instead, we have built up an organisation based around the strategy that absolutely anyone can act as a fire warden.

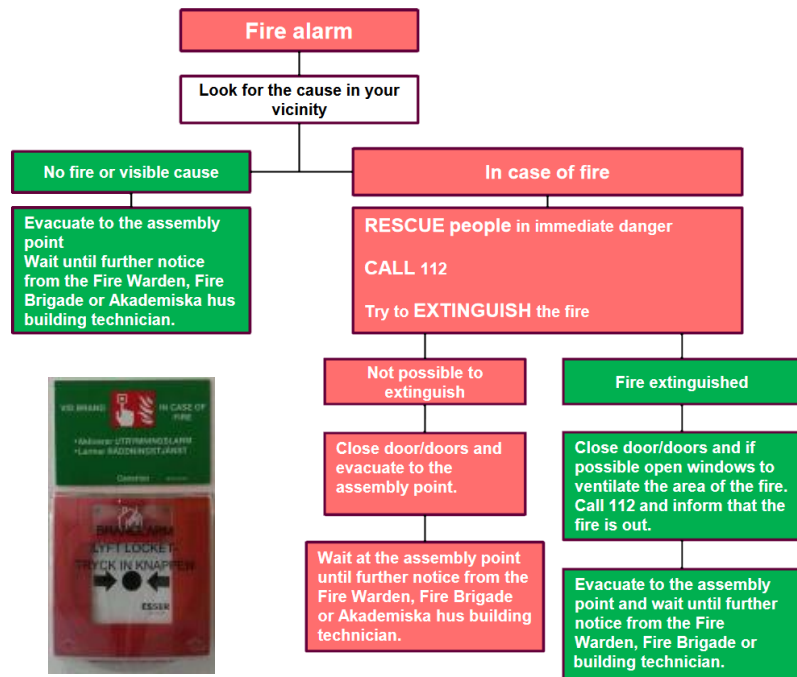


Figure 1. Evacuation alarm button and flowchart in case of fire alarm.

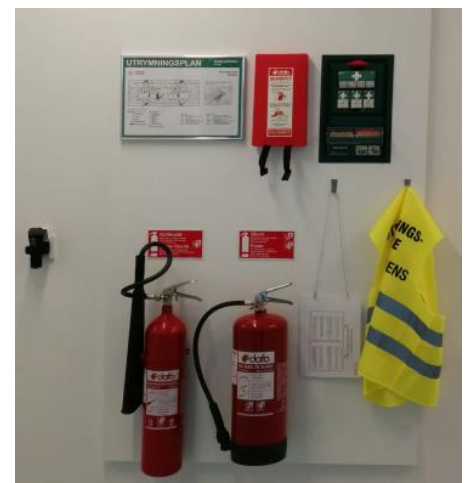


Figure 2. Evacuation station

³ Please read "Neo – Fire safety, Appendix A" for "Simplified description of the signalling and functions of the fire / evacuation alarm in the Neo" ("Neo – Fire Safety, appendices", <https://staff.ki.se/media/555/download>, can be found at <https://staff.ki.se/safety-in-neo>)

⁴ See document "Neo - in case of an emergency", <https://staff.ki.se/media/559/download> (at <https://staff.ki.se/safety-in-neo>)

There are evacuation stations in different areas with the following equipment, as shown in Fig 3:

- Fire Warden vest
- Fire Warden instruction card⁵
- Rechargeable hand torch
- Fire extinguishers
- Fire blanket

In the event of an evacuation situation, the first person to reach the station puts on the vest and follows the instructions on the card. The Fire Warden is responsible for going through the premises and instructing colleagues to evacuate to the assembly point. However, it is important to emphasise that everyone has a personal responsibility for following the Fire Warden's instructions. It is also the Fire Warden who contacts the Fire Brigade and shows them the shortest way to the site of the fire. The Fire Warden also make the contact with the technician from Hemsö/Coor (or other company responsible for Hemsö's buildings) when they arrive on site and for announcing – when confirmed by the Fire Brigade or the technician – that it is safe for employees to re-enter the building.

The reason why KI and Neo have chosen this type of evacuation organisation is that KI employees are highly mobile. In other words, very few people remain in the same location throughout the working day. There is also a high level of staff turnover, particularly within research operations. It would therefore be too difficult to ensure that the right person is in the right place at the right time with specially appointed Fire Wardens, and to maintain an up-to-date evacuation organisation over the course of several years.

Delta repeaters

The delta repeaters are not, by themselves, considered an evacuation alarm.

The delta repeaters are intended to bring potential situations to the attention of people present and to give people a chance to localize fires early.

When work is being done on the evacuation alarm or on the sprinkler system, there is a chance for false alarms, especially on the delta repeaters.

If you are bothered by the noise, you can press "summer tyst/test" to silence the delta repeater temporarily.



Figure 3. Delta repeater

Whenever you hear an alarm or see flashing lights, you should always check your surroundings, even if you know that planned maintenance is being done. A short instruction film can be found at staff.ki.se/safety-in-neo

When the Delta Repeater is beeping or when the evacuation alarm is activated

- Check the panel: A message what and where something has happened will be displayed, e.g. "Floor 8/Mid Org. Chem. Lab 8349"
 - Flr or Floor = The floor
 - Mid = Middle section of the building. (South is close to the hospital and North is close to Hälsovägen. May be any of these: Mid, Middle, North, N, NE, NW, South, S, SE, SW)
 - Org ... = A description of the room
 - 8349 = The room number
 - (Also some technical info, fire alarm section number and the id of the activated alarm unit. This is only useful if you have floor plans with this information.)
- Go to that room, if considered safe and close to your location.
 - If a small fire, call for help (shout out) and try to extinguish it. Depending on the size of the fire you may also press the alarm button.
 - (Normally you should have someone to press the button unless it is very likely that you can extinguish the fire)

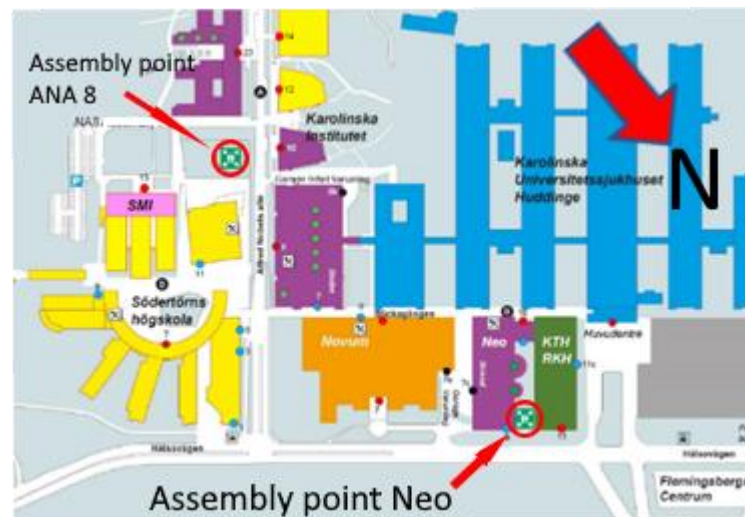
⁵ Instruction card for Fire Wardens, (Under "Neo-related safety documents" see [fire_warden_instruction_card_columns.pdf](https://staff.ki.se/safety-in-neo) in <https://staff.ki.se/safety-in-neo>, the cards at the evacuation stations in Neo are slightly modified version of the common KI instructions)

- If a large fire, press the alarm button, **evacuate the building** (see below), and **call 112** to describe what is going on. The fire fighters will send more people and drive faster if they know it is a real fire.
- If it is confirmed to be a false alarm or the fire already has been extinguished call Johan Dethlefsen or any of the Fire Safety Supervisors. Also send a messenger to the assembly point to tell them what has happened. If the fire brigade has not arrived, wait for them to give them the information (they probably want to check it anyway)

Assembly point after an evacuation of the building

The Assembly point is the Contemplation Courtyard, the area between TAH (KTH RKH) and Neo buildings.

NB! This area will not fit everyone evacuated from Neo. The fire wardens will instruct you to move to other areas. A least one fire warden should stay in this location to meet the fire fighters and house technicians.



Incident reporting⁶

Fire incidents should be reported in KI's central incident management system, Key Concept.

Incident reports are an important part of improvement work within the field of fire safety. The more concrete incidents are reported, the easier it is to get an overview of what working systematically with fire safety should focus on.

Fire safety training⁷ and workplace induction

It is important that you feel safe at your workplace. Knowing what to do in the event of a fire alarm and how to deal with a fire at your workplace is an important part of this, as is knowing how to prevent fires within the context of your work. Therefore, there is a mandatory theoretical/practical basic training that all KI staff have to complete within the first six months of their employment and repeated every four years. Participation in both theory and practice is mandatory.

Training includes, amongst other:

- Causes of fire, its progress and spread
- Fire hazards
- Preventative fire safety
- Reacting to fire/evacuation alarms
- Fire extinguishing exercise

In addition to fire safety training, new employees working at Neo are given an introduction in workplace fire safety. Line managers (e.g., group leaders) are responsible for ensuring that new employees receive induction training⁸, but it may be the Fire safety monitor or a lab manager that carries it out. Moreover, once each

⁶ See Reporting incidents, <https://staff.ki.se/report-an-incident>

⁷ See "Training within Fire Safety" (<https://staff.ki.se/fire-safety#heading-4>)

⁸ See documents "Checklist for workplace fire safety induction for new employees", <https://staff.ki.se/media/216/download>, and "Lab Safety Items to Check when self-monitoring" ([Checklist for self monitoring of fire safety installations](https://staff.ki.se/media/219/download), <https://staff.ki.se/media/219/download>, found at <https://staff.ki.se/neo-work-environment-and-safety/>)

month a representative from the Neo Work Environment Group is giving a thorough introduction that is mandatory for all new staff working in Neo.

Make it a routine:

- When leaving for the day you should turn off the light in offices and labs in order to reduce the risk of fire from light fixtures.
- In order to reduce the risk of spreading of a possible fire you should close the doors to offices and labs when leaving for the day.
- Report all accidents that resulted in a fire or that could have resulted in a fire to the fire safety supervisor.
- If there is a false alarm or if you happen to burn an electric motor or something similar (that will give rise to bad smell) tell the people working in the proximity what has happened and send out an e-mail with the same content to:
 - bionut.all@biosci.ki.se
 - LIPIDLAB.heads@biosci.ki.se
 - HERM.heads@biosci.ki.se
 - NVS.heads@biosci.ki.se
 - NEO.heads@biosci.ki.se (all department heads)
 - labmanagers.all@biosci.ki.se (all departments lab managers)

Flammable goods

Flammable and explosive goods is a collective term for flammable gases, flammable liquids, and other fire reactive goods. KI is obligated to have a well-structured organization with qualified Supervisor flammable goods and Flammable goods monitors. The Supervisor of flammable goods has an overall departmental role with the aim of ensuring that flammable goods are handled and stored in accordance with relevant legislation, rules and routines. The flammable goods monitor carries out daily inspections of how flammable goods are handled and stored.

Please read the information regarding flammable goods at <https://staff.ki.se/flammable-goods>

Storage

Flammable goods must be handled and stored in a safe manner and the amount of flammable goods may not exceed the stated limits per fire cell, which is 50L. A fire cell is a part of a building, such as rooms or floors that are technically constructed so that a possible fire is prevented from spreading to another part of the building during a given time. In the Neo building there are fireproof cabinets in the two chemical rooms on each floor, as well as standard labs and cell culture nodes. All long-term storage of flammable goods must be stored in these cabinets.

- Smaller amounts of flammable goods used on an everyday bases are fine to keep in the lab when the experiments are conducted.
- When the experiments are finished for the day, all bottles with flammable goods must be returned to the fireproof cabinet in the lab. No flammable goods are allowed to be stored open in the lab when they are not used!
- Flammable products should not be stored with inflammable substances/materials or flammable gases.
- Flammable products may not be stored with other chemicals, all chemicals with a CLP labeling with the flame is considered a flammable product.
- If a chemical has more CLP labeling than the flame, they should still be stored as a flammable product (e.g. Methanol that are both flammable and toxic).
- Gas cylinders should be stored well anchored with a chain or equal, if possible, in the gas niche on each floor and distributed by the local gas network of pipes.
- Greater amounts of flammable gas require fire-classified storage.

Labelling and signs

Flammable products should be labeled with symbols and warnings so that users are informed of the dangers. Labeling is determined by the classification of the product. Cabinets and storage, as well as doors leading to spaces where flammable goods are stored, should be well labeled to inform everyone where flammable goods are kept.

Fire hazards⁹

There are several sources of fire that should be taken into consideration when planning and conducting work at Neo.

- Flammable chemicals placed in **refrigerators** (freezers) with the switch for light and/or thermostat inside the door, i.e., normal equipment of household type is another possible source of fire. Flammable chemicals can therefore only be put in "spark free" refrigerators / freezers and only such cabinets can be purchased to the department. Existing non spark free refrigerators/freezers can be used for other purposes but have to be **labelled with a sign** saying that flammable substances cannot be stored there.
- It is not allowed to use a spray bottle (type flower spray) for ethanol sterilization since the formed mist is a fire hazard. Use instead a normal squirt bottle. The refilling of the squirt bottle from a larger bottle must be performed in a ventilated hood, since there is formation of mist during the refilling process as well.
- It is also important that you don't use daisy chains (extension cords plugged one into another) since those can be a source of fire and it is important that all cords are intact so no short-circuit occur. In Neo additional outlets can usually be added, fixed to the wall. Free-lying, consumer type extension cords should be avoided wherever possible.
- If you bring in an entrepreneur who has to work with heat-generating equipment, i.e. doing welding, soldering or work with a hot air gun, that person has to have a specific certificate. Furthermore, a form has to be filled in for the fire protection work and the fire alarm has to be turned off (this is taken care of by the service people at Neo management after that they have received the filled in and signed form). All this work has to be performed under supervision of the fire safety supervisor.
- Never use recycled paper in microwave ovens, since such products, including paper towels, usually have minute metal flecks that can cause sparks and even flames. If you have a fire in the microwave oven, turn off the oven immediately and unplug the power cord. Do not open the door of the microwave, but simply wait till the fire suffocates.
 - In order to reduce the risk of spreading of a possible fire you should close the doors to offices and labs when leaving for the day.
 - Report all accidents that resulted in a fire or that could have resulted in a fire to the fire safety supervisor.



Receiving flammable goods

The normal routing in the goods reception is to deliver the goods to the final recipient as soon as possible. When packages containing flammable goods have been delivered to the final recipient, they should be unpacked as soon as possible and stored in a suitable fireproof cabinet.

If the flammable goods cannot be delivered from the goods reception, it must be temporarily stored in the goods reception's chemical storage, 8810, which is its own fire cell, until final delivery.

Fire safety monitors and their responsibility areas

The fire safety monitors are responsible for the different departments within Neo and/or for certain corridors and the rooms that can be reached from these corridors. Please note which persons are fire safety monitor where you are located¹⁰.

⁹ Fire Safety, <https://staff.ki.se/fire-safety>

¹⁰ The documents can be found under Neo-related safety documents at "Safety in neo", <https://staff.ki.se/safety-in-neo>. Fire Safety – Appendices, <https://staff.ki.se/media/555/download>. Appendix B, "Fire safety monitor areas. For fire safety monitors, see Self-monitoring of fire safety installations – Egenkontroll brandskydd <https://staff.ki.se/media/123585/download>. General instruction for everyone regarding self monitoring, see Neo – lab safety items checklist, <https://staff.ki.se/media/82245/download>.

Information on the KI web

- Safety documents related to Neo can be found under “Neo-related safety documents” at web page <https://staff.ki.se/safety-in-neo>
- Roles within the fire safety organisation
 - <https://staff.ki.se/media/123335/download?attachment>
- Fire safety – Brandsäkerhet
 - En: <https://medarbetare.ki.se/brandsakerhet>
 - Sv: <https://staff.ki.se/fire-safety>
- Flammable goods – Brandfarlig vara
 - En: <https://staff.ki.se/flammable-goods>
 - Sv: <https://medarbetare.ki.se/brandfarlig-vara>
 - [Supervisors of flammable goods at KI](#) (PDF, 113.49 KB)
 - [Regulation in handling of flammable goods in laboratories at KI](#) (PDF, 578.39 KB)
- Karolinska Institute’s fire safety rules – Karolinska Institutets brandsäkerhetsregler
 - En: <https://staff.ki.se/media/464/download>
 - Sv: <https://medarbetare.ki.se/media/586/download>
- List of Supervisors of flammable goods at KI, <https://staff.ki.se/media/442/download>
- List of Fire safety supervisors at KI, <https://staff.ki.se/media/629/download>

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Revisions

Version 1.5 (2023.05)

- Section “Make it a routine” was misplaced under Flammable goods – moved to Ch. “Fire safety training and workplace induction.”
- Added “Receiving flammable goods” under Ch. “Flammable goods.”

Version 1.2 (2021.08)

- Replaced “controller” with “monitor”
- Added “Information on the KI web”
- Updated links

Version 1.1 (2020.10)

- Updated links

Version 1.4 (2022.05)

- Added picture of evacuation alarm button
- Added flowchart
- Changed order of the chapters
- Replaced some section with references to KI web pages
- Changed some formatting.

Version 1.3 (2021.11)

- Move Ch. “Assembly point after an evacuation of the building” from appendices (was App B) into this document.
- Added Ch. Evacuation
- Formatting