# Working safely in the seed storage of CGN

## Safety instruction

**When a safety instruction?**

To work in the CGN's seed storage facility, it is compulsory to have followed safety instruction. This applies not only to CGN employees, but to anyone who wants to work in the genebank. Instructions are given by FM, JS and DB. After following an instruction, this is recorded on the form 'Form safety instructions genebank'. These records are managed by FM. After a period of 5 years and/or in the event of relevant changes, the instruction must be followed again.

**Topics of safety instruction**

* Personal alarm
  + When and how to use
  + What happens in the event of an alarm
* Fire extinguishing system and monitoring
  + Automatic activation, manual activation, manual deferral of extinguishing
  + Location various buttons and fire extinguisher
  + Recognition of different alarm signals and what to do in case of these signals
  + What happens in the background
* Emergency exit
  + Location of emergency exit and emergency button

The instruction is given orally where all these points are covered. The text below is given to the instructed for him/her to read after.

## X-Guard alarm system for CGN freezers

**When to use the alarm system?**  
It is mandatory to use the person alarm when in a -20°C freezer. A brief instruction prior to first use is mandatory.   
Preferably enter freezers only between 7:30 and 17:30. Outside these times, it may take longer for BHV to respond to the alarm.

**What does the alarm system consist of?**A person alarm is used in the form of the X-Guard app "Alarm" on a Samsung smartphone. This person alarm, when enabled, provides an automatic alarm notification if the phone does not move for 2 minutes.   
There is also an option to trigger an alarm yourself via this phone or via a separate alarm button.   
In the event of an alarm, Radix's in-house emergency service is always alerted immediately. In addition, all alarms are received by an X-Guard 24/7 alarm centre.

**How to use the alarm system? (abbreviated version)**

1. Disconnect the phone from the charger.
2. Turn on the phone by pressing the bottom button on the right side of the phone. This will automatically launch the "Alarm" app.
3. On the screen, you will see a slider with the values "Off", "On" and "Risk". Set this to "Risk". The phone is now ready to use, and will trigger an automatic alarm if the phone does not move for 2 minutes.  
   There is also an option to trigger an alarm yourself by pressing the red button on the left side of the phone 3 times in quick succession, by holding the separate alarm button for a few seconds or by holding the red area on the screen for a few seconds.
4. After use, set the slider from "Risk" to "Off", and reconnect the phone to the charger.

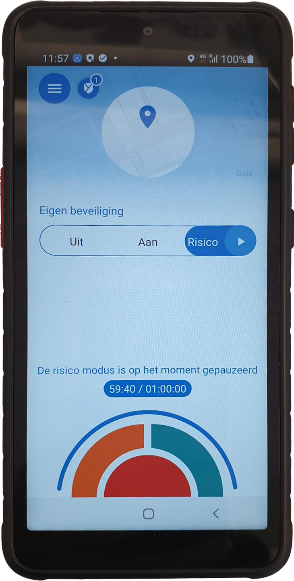
Alarm: 3 quick presses on the red button on the side

Switch on: press black button on the side once



Alarm: press button for a few seconds

Alarm: hold red area for a few seconds



**How to use the alarm system? (extended version)**

1. Disconnect the phone from the charger.
2. Turn on the phone by pressing the bottom button on the right side of the phone. The "Alarm" app will now also be launched automatically.
3. In the centre of the screen, you will see a slider with the values "Off", "On" and "Risk". Set this to "Risk". The phone is now ready to use.
   * Automatic alarm notification   
     If the phone does not move for 2 minutes, the pre-alarm is activated. The phone makes the sound of a guarded railway crossing. You have 30 seconds to cancel this pre-alarm in case of a false alarm. After these 30 seconds, the alarm notification is transmitted, and the alarm protocol (see below) starts.
   * Triggering an alarm yourself via the red button on the left side of the phone  
     Pressing the red button on the left side of the phone 3 times quickly triggers a pre-alarm. The phone makes the sound of a guarded level crossing. You have 20 seconds to cancel this pre-alarm in case of a false alarm. After these 20 seconds, the alarm is transmitted, and the alarm protocol (see below) starts.
   * Triggering an alarm yourself via the red area on the phone's screen  
     Clicking and holding the red area on the phone screen for a few seconds triggers an alarm transmission. There is no waiting time to cancel the alarm, and there is no sound of a monitored level crossing. The alarm protocol (see below) starts immediately.
   * Triggering an alarm yourself via the separate alarm button  
     The loose alarm button is connected to the phone with Bluetooth, and can be used in combination with the phone if required. So the phone has to go into the freezer too! Pressing the loose alarm button for a few seconds triggers an alarm. There is no waiting time to cancel the alarm, and there is no sound of a monitored rail crossing. The alarm protocol (see below) starts immediately.
4. After use, move the slider from "Risk" to "Off", and confirm this by clicking "Off" again, and connect the phone to the charger again. Should you accidentally forget to reset the slider, this is no problem, this also happens automatically when the phone is connected to the charger.

**The alarm protocol**

Both an automatic alarm and a manual alarm trigger the alarm protocol.

* BHV is alerted and will come to the seed storage area as soon as possible.
* A signal goes from the 'Alarm' app to X-Guard's alarm centre. This is manned 24 hours a day. After about 1 minute, you get a call from this alarm centre. They see that CGN's signal is out of seed storage. If the X-Guard alarm centre fails to make contact, they will contact the PSG alarm centre (0317-48nnnn). The PSG alarm centre follows an alarm protocol.
  + During office hours on weekdays (7:30-17:30 am), PSG-BHV's 'Man down Alarm CGN' instruction is triggered. BHV is contacted from the PSG alarm centre, even if Koen and Petra have already been notified, so that someone is always sent to seed storage as a matter of urgency.
  + Outside office hours, the PSG emergency centre is manned by Schipper Security. These will rush a car to the seed storage facility.

Should X-Guard be unable to reach the PSG alarm centre, they will call 112.

At PSG, several groups work with an X-Guard alarm system. Koen van Boheemen is the PSG contact person for X-Guard. To ensure proper functioning of the system, the personal alarm and its protocols are tested several times a year. Test results are passed on and/or discussed with Koen.

**Points of interest**

* This phone is managed by X-Guard and can only be switched off or rebooted by taking out the battery. We can make some adjustments ourselves within the "Alarm" app, but this is not desirable and therefore not allowed. The settings are carefully chosen, and any change will change the protocols.
* The alarm phone cannot be used to make calls. It can be called, but not unless it is an emergency. The telephone number is known to BHV and X-guard.
* If the "Alarm" app screen looks different than expected, and/or you don't quite trust it, don't just go into the freezers, and pass on to Frank that there might be a problem with the alarm phone, or that you would like another explanation.
* If you use the separate alarm button, attach it to an easily accessible place on your clothing, for example on the zip of the cold suit. The phone can then be worn under the cold suit if necessary. Attach the button before setting the app to "Risk". After all, you don't want to accidentally signal an alarm when attaching it.
* Should there be any other calamity within seed storage, this phone can also be used in an easy quick way to raise the alarm.
* The button's battery lasts at least 2 years. Frank ensures that the battery is replaced on time. On the back of the button is the date when the battery was last replaced.

## Fire extinguishing system and monitoring

**Description of the system**

All seed storage areas are connected to an Argon-based automatic fire extinguishing system. This system is an integral part of the fire alarm system, whose panel hangs on the wall next to the germination cabinets. The fire extinguishing system can be activated automatically by the smoke detectors. The system can also be triggered manually via the yellow "BLUSSING" boxes, and extinguishing can be delayed via the blue "UITSTEL BLUSSING" boxes (see picture).  
The fire alarm centre is connected to the FAFS alarm system and to the private emergency response centre. Within office hours, BHV will always respond, outside office hours follow-up is via the PSG fault-clearing service.

**Operation of the system**

* Activation by smoke detectors  
  Every workspace has at least two smoke detectors. When one of the detectors is activated, the alarm goes off (alarm phase 1), but only if several smoke detectors are activated within one room does the fire extinguishing system go to alarm phase 2. After 30 seconds, gas is sent from the extinguishing gas system to the relevant room.
* Manual activation extinguishing  
  Within the seed storage area, there are 6 yellow "BLUSSING" boxes that can be used to manually activate the fire extinguishing system (directly to alarm phase 2). The fire extinguishing system is set up so that it can only be extinguished in one room. Each room therefore has a yellow button specific to that room. The button is located just outside the room, next to the entrance door to that room. There are 2 yellow cabinets that belong to the work space, one in the drying room, and one in the hallway.
* Delayed extinguishing  
  Within the seed storage area, there are six blue "DEFERRED BLUSHING" lockers that allow fire extinguishing to be delayed by 30 seconds. There is a blue locker in every room, including the freezers. In the workspace, there are 2 blue lockers. These blue boxes are specific to the rooms in which they hang, and can therefore only be used to defer fire in the one room where there is currently a fire alarm.



**What to do in which situation?**

Fault message/fault panel fire alarm system

* Signals
  + There is an annoying *continuous beep* coming from the fire alarm system panel. There are no other signs that anything is wrong (no flashing lights or other alarms).
* Cause
  + There is a malfunction in the fire monitoring system. This is annoying, but nothing is actually wrong.
* What is happening in the background?
  + Reports from this system are automatically transmitted to the technical service.
* What to do:
  + Waiting for someone from technical services to come.
  + If no one comes warn:
    - CGN: FM (0317 48nnnn) or JS (0317 48nnnn).
    - Unifarm: RV (team leader: 0317 48nnnn), ES (technical service: 0317 48nnnn) or FD (technical service: 0317 48nnnn). The technical service workshop (ES and FD) of Unifarm, is located on the left side of the seed storage area (looking from outside towards the door). Someone is often present here.

Alarm phase 1

* Signals
  + There is an annoyingly *fast beeping* coming from the fire alarm system panel *and*
  + a loud *monotonous alarm* sounds from a red loudspeaker in one of the rooms. No red light flashes.
* Cause
  + One smoke detector somewhere has signalled smoke. As long as only one smoke detector per room signals smoke, the fire extinguishing system does not go to alarm phase 2.
* What is happening in the background?
  + The alarm is passed on to FAFS and the private emergency response service.
* What to do:
  + Determine where the notification is coming from. The display of the fire monitoring system indicates where the notification is coming from, and the alarm sounds only in the room where the smoke detector detected smoke.
  + Check for persons elsewhere in the seed storage area and warn them.
  + Check whether there is indeed fire/smoke.
    - If there is no fire: wait for the technical service, and call the Radix alarm centre to indicate that there is an alarm but that it is a false alarm. This phone number is pre-programmed (planning April 2024) on the landline phone in the workroom.
    - Is there a fire:
      * Very small controllable fire: extinguish it, there is a CO2 extinguisher in the workroom. If in doubt: do not extinguish!
      * Non-controllable fire: immediately close the door to the room where there is a fire. Activate Argon extinguishing using the yellow "BLUSSING" box near the door to the room where there is a fire. These boxes are on the outside of each room. Only 1 room can be extinguished, so choose the right yellow box. When the button on the yellow locker is pressed, the fire extinguishing system immediately proceeds to alarm phase 2.

Alarm phase 2

* Signals
  + There is an annoyingly *fast beeping* coming from the fire alarm system panel *and*
  + a loud 'slow-whoop' sounds from a red speaker in one of the rooms *and*
  + both the red lamp on the outside of the room where there is an alarm and the red lamp on the outside of the building flash.
* Causes
  + Multiple smoke detectors within 1 room have detected smoke, *or*
  + the button on a yellow "BLUSSING" box is pressed.
* What is happening in the background?
  + The alarm is passed on to FAFS and the private emergency response service.
* What happens in seed storage?
  + You have 30 seconds to delay the extinguishing or to leave the building. After 30 seconds, Argon enters the room through the ceiling sprinklers with a lot of whistling noise.
* What to do:
  + Determine where the notification is coming from. The display of the fire monitoring system indicates where the notification is coming from, the alarm sounds only in the room where the smoke detector has detected smoke, and the red lamp near the door of the room where the notification is coming from flashes.
  + Check if there are persons elsewhere in the seed storage area and warn them.  
    Note: if you suspect that there is indeed a fire, always keep the door of the room from which the report came closed, unless you suspect that someone is present, open it carefully.
  + Check whether there is indeed fire/smoke.
    - If there is no fire or you need more time to rescue a colleague from the room where there is a fire: postpone extinguishing by pressing the button in the blue "EXTEND BLUSHING" box in the room where there is a fire (alarm). Choose the right blue box, only the box in the room itself where the alarm is coming from works! The moment the button is pressed, the alarm changes from 'slow-whoop' (alarm phase 2) to a 'continuous tone' (alarm phase 1). As long as you keep the button pressed, extinguishing is delayed. When you release the button, the sound changes again from a 'continuous tone' to 'slow-whoop' and begins the 30-second countdown before the Argon is released. Each time the button is pressed, the countdown starts again.
    - If there is a fire, immediately close the door of the room where there is a fire and leave the seed storage area within 30 seconds. After 30 seconds, with a lot of whistling noise, Argon enters the room via the ceiling sprinklers. If you are sure it is a very small fire that you can easily extinguish yourself with the CO2 extinguisher, delay the extinguishing as described above and then extinguish it and wait for help. In all other cases, leave seed storage!

## Emergency exit

The seed storage area has a normal access door and an emergency exit in the back wall of the drying area.

* In principle, the normal entrance door can always be opened via the "light button" next to the door handle. Should the electricity fail, and the door does not open, there is a green box slightly higher up next to the door. In an emergency, the glass of this can be broken and the button pushed in. The door will then always open.
* There is an emergency exit in the back wall of the drying room. This is always locked, and can be unlocked by turning the doorknob.