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## **QUICK REFERENCE GUIDE ON KLARA – RADIATION SOURCES**

Instruction regarding the Radiation sources' registration

2022-02-11

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# Background

The authorities' directives regarding possession and usage of the radiation sources are comprehensive. To fulfil these obligations with included effectiveness in handling and presenting the radiation sources, Lund University (LU) together with EcoOnline AB has developed a KLARA addition module. In this module, being part of the whole chemicals management system, user can register the radiation sources. All radioactive substances, as well as each instrument emitting ionising radiation shall be registered in the system. The registration is done by assigned contact person. In order to carry out the operations involving ionising radiation, the institutions and researchers have to obtain an approval from the organisation's radiation safety physicist.

In the current version, the following radiation sources can be registered:

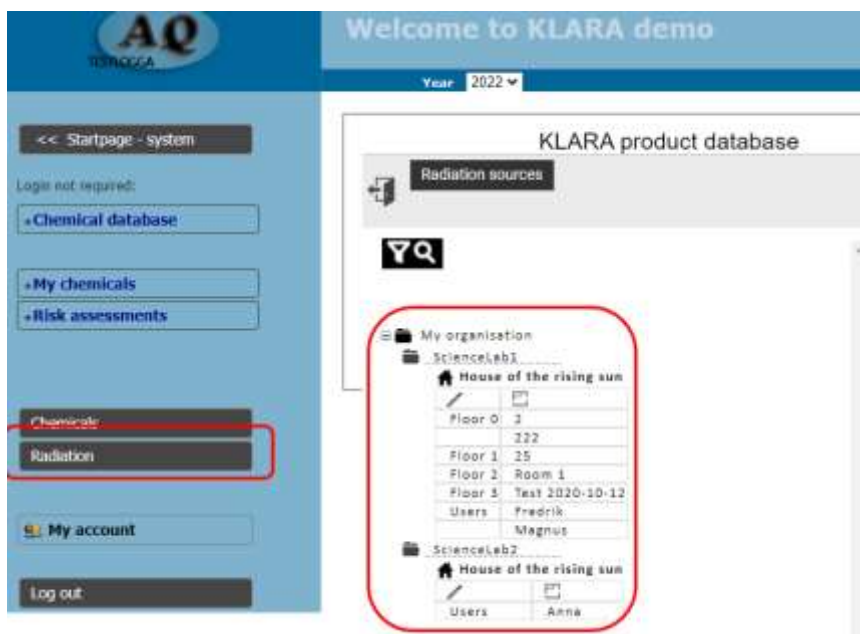
- Open sources
- Closed sources
- Lasers
- X-rays instruments

This document describes how the user can register, modify and unregister own radiation sources.

# Access and Permissions

You can reach the system by logging in via KLARA chemicals management platform, in your organisation's intranet. Permission to access the system should be assigned to you by a radiation safety physicist at your department. To log in, use your KLARA username and password.

# Registration



When logged in, choose the “Radiation” function present on the start page. After you have selected this function, you will find the departments for which you are allowed to register the radiation sources.

First, you should connect the rooms where the radiation sources are held, in order to register these. Importantly, the registration is possible not only for your department.

The room is connected from the organisational buildings list. If any room is missing, it can be easily added to the listed facilities.

Pay attention to the correct room names, more exactly, use the same number existing on the door!

## Connect room to your organisation

Choose the department to which the room should be connected, by clicking on the right departments' name (in your organisation). Next, click on the “add a room” button visible in right upper side of the page:

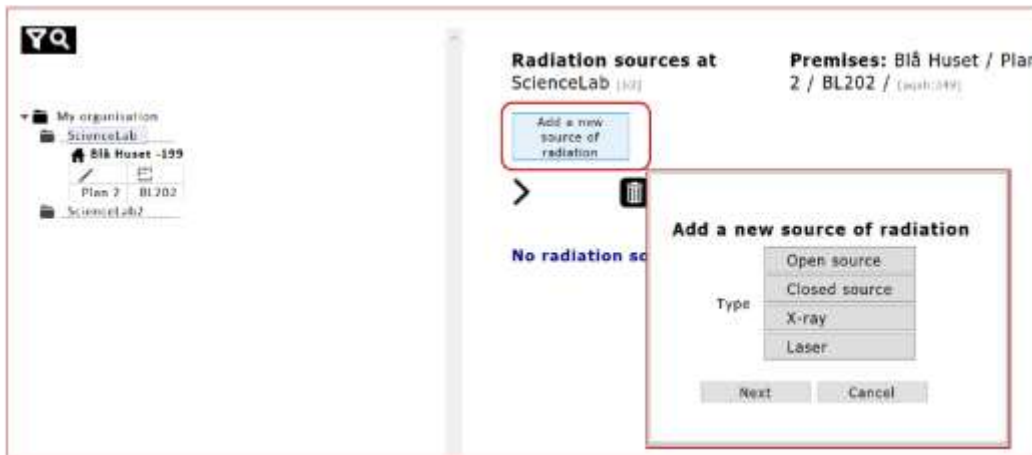


1. You will find the listed buildings included into your organisation to choose from. Select the right building, then the room (click on the plus sign to add). If the room does not exist in the property register, you can create a new room. Be careful with giving the correct name, check that it corresponds to the number on the door or sign next to it.
2. These connected rooms will be found under the “Linked to” headline. If the wrong room is connected, it can be easily disconnected by clicking on the minus sign.
3. When you are ready with adding rooms, you can click on “Done – go back” sign.

## Choose room to register radiation source in

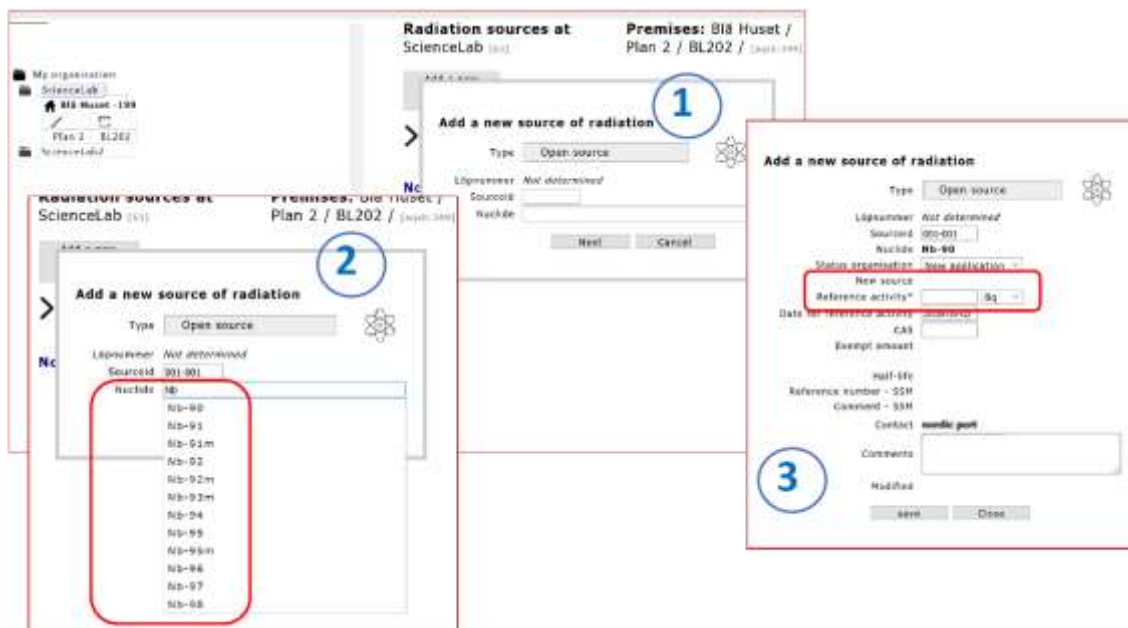
The radiation sources are to be registered in a room belonging to your department. Moreover, the registration shall not be done at your empty department's space. Click on the room of interest, under the current department.

- Then choose the button "Add a new source of radiation".
- Select the type of the source to be registered.



## Open source

Enter the "sourceid" and the first letter of a nuclide, next, select from a list of all nuclides under this letter (see number 1 and 2, in a Figure below). However, you cannot add any new nuclides, in case of something missing – contact your department's radiation safety physicist. If the nuclide choice is ready, click on "save" button. Depending on the type of chosen nuclide, some additional information is required. This will show in red as mandatory field (e.g. reference activity in part 3 below).



For open and closed sources, nuclide related data such as half-life or quantity shall be entered in the overview. This is done after the reference activity is filled in.

With all the information, a “Current activity” is displayed for you as a calculated value. Monitoring this value makes it easier to know when the nuclides can be sent as ordinary waste.

### Closed source

Similar as above, start writing the first letter of the nuclide you want to register, then select from the listed ones. Again, if any nuclide is not available for selection, you are not obliged to add any new atomic species. In such cases, contact your department’s radiation safety physicist.

For some nuclides filling additional information such as “Reference activity” or exempt amount is conditional so the registration can be completed.

Further, for both source types (open and closed) supplementary data (half-life and quantity) shall be entered as next step. The mandatory fields will be indicated by the red sign in case you try to proceed with the registration without filling those fields.

“Current activity” is the value displayed for you, based on the data you filled in the mentioned fields. The main purpose is to have indication when the nuclide can be classified as ordinary waste.

### X-rays

X-ray instrument’s sources are added by you. Here, the page does not offer any selection possibilities. It is important that your research group contacts the department’s radiation safety physicist BEFORE the actual purchase of the X-ray equipment.

### Lasers

Lasers are to be added by you, as well, no pre-saved choices are available in the module. However, the requirement is to obtain an approval from the Swedish Radiation Safety Authority for laser registration purpose.

## Status

When a new radiation source is created in the system by you, the source has added an “organisation status”. For this status to be updated (e.g. approved or removed), the radiation safety physicist should verify the changes.

As indicated, the same approach is valid for removing the source. You click on “delete”, followed by radiation safety physicist’s approval of this action.

## Change the source’s data

You as a user can edit some of the given fields, after the registered source is saved. If incorrect information had been registered in fields which you cannot edit, this is to be corrected by the radiation safety physicist.

## Move the registered source

Relocation of the registered source is blocked for the user. The reason for this is the high importance of having knowledge about all the previous placements. In case of need to move the source, the unregistering at first is recommended. Afterwards, this source can be registered as new in the different location.

## Unregister the source

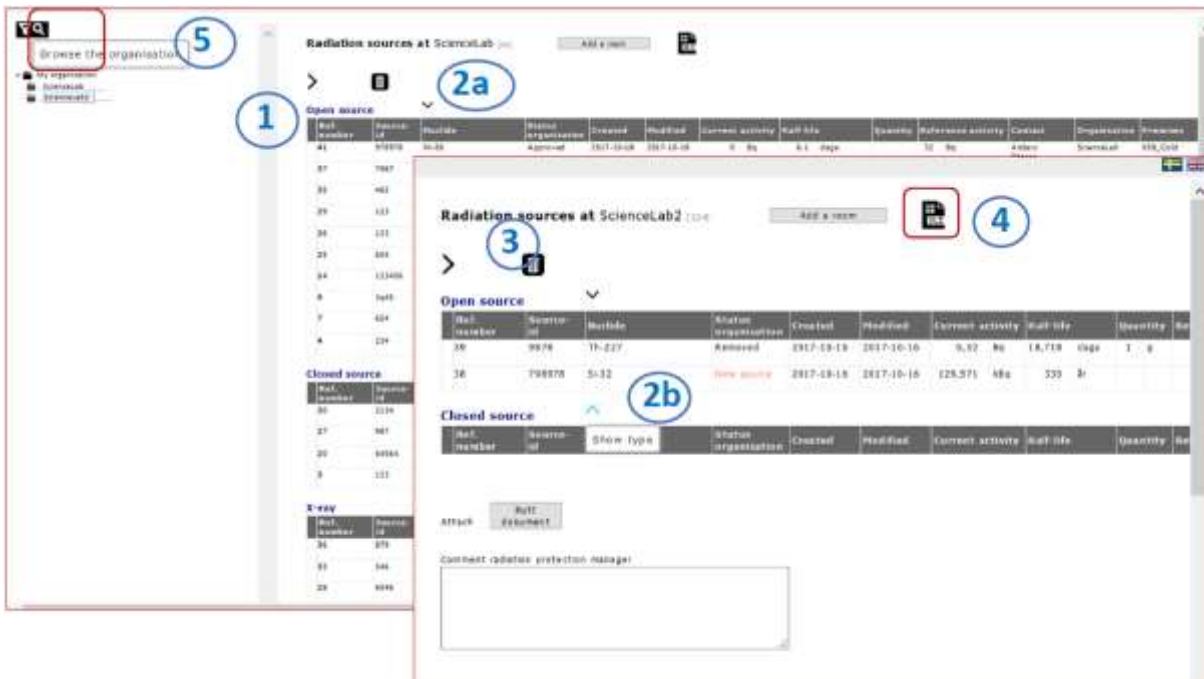
The radiation sources which are no longer present at your department shall be unregistered. Moreover, this even applies for sources taken over by other research groups or departments. In such eventuality the same source shall be registered as new on its new department.

Click on the radiation source, then change the status to “Delete”. You are allowed to change the status only when the source is approved by the radiation physicist.



## Presentation mode

It is possible to obtain view over all your radiation sources if you want to focus on your department. Furthermore, you can delimit the displayed presentation by selecting only a room. The result can even be filtered with respect to the source types. Basic view always displays your actual radiation sources. Visual presentation refers only to a number of pre-selected fields, more is available in an extended presentation mode. Below you find a short description of the functions.



1. Click on the upper left arrow (when moving the mouse pointer over it, you should see “show all” sign) to display all the available information about your sources. By clicking again on the same arrow (you see it reversing and the sign “show less”) the presented information shrinks.
2. Click on the down-directed arrow (2a) to respective hide type of source or document (2b). By clicking again, you go back to complete information.
3. By clicking on a trash icon (“show discarded sources”), you will find the removed radiation sources from the room or department of interest. Click again for that icon to go back to the actual sources (“show current sources”).
4. If you click on “xls” symbol, an excel file is created to open and download. This xls file contains all the available information about each registered source. The downloaded information includes both, actual and removed sources. Pay attention that it is your responsibility to handle this document in a safe way. The information regarding your registered radiation sources must not be public available. Only assigned responsible personal shall be able to see the sources’ location. Have in mind the information safety.

## Document and commenting

Any documents or comments are added by the assigned sources' administrator. For example, a local approval can be the document to load (see comment field on the above Figure).

## Search function

The radiation sources' module is equipped with "search function" marked by an enlargement glass sign (see example below and point no. 5 on previous image), located in the upper left side of the page (above the shown departments).

Here, you can write source's name or part of it in order to obtain the browsing result. The search hit is shown by blue enlargement glass next to the found source. For displaying the source of interest on the main page a click on that symbol is required.

By clicking on "Reset" sign, the searching field is removed from the view.



## Finish and log out

Have in mind a safe way of working regarding the radiation sources, even during the registration process. Remember to log out after you are ready, especially if others have access to the computer, you just used.