Guide for the Use of the Radioisotope Research Laboratory

1. How to register the name of a person who is engaged in isotope handling.

1) A person who conducts an experiment using isotopes must register the name as a person who is engaged in isotope handling.
2) Follow the necessary procedures using an appointed form via the supervisor.
3) A person who intends to make registration at the first time must take a medical examination (blood test, skin test and interview) and a new education and training.

2. How to enter the controlled area

1) Change into the protective clothing in a changing-room and wear the luxel badge in place (on the breast for male and on the abdomen for female).
2) Bring the card close to a card reader located at an entrance of a controlled area and enter the room.
3) Take a pair of slippers, place it outside a slatted drainboard and wear it.

3. How to leave the controlled area

1) Wash the hands with soap at a hand-washing sink.
2) Bring the card close to a card reader of the Hand-Foot-Clothing (HFC) Contamination Monitor.
3) Monitoring with HFC.
4) If contamination has been found, repeat the procedure after taking a prescribed measure.
5) Stand on a slatted drainboard barefooted and store a pair of slippers in an appointed place.
6) Bring the card close to a card reader located at an exit of a controlled area and leave the room.

4. Items to be complied with in a controlled area

1) Wearing of the luxel badge.
2) Wearing of the protective clothing.
3) Prohibition of eating, drinking, smoking and make-up.
4) All doors in the controlled area must not be left open.
5) Keeping of good arrangement at the working area.
6) Prohibition of taking-out of isotope-contaminated articles from the controlled area.

5. Use of laboratories

1) To conduct experiments with a leader.
2) Handling of isotopes only in laboratories in the controlled area.
3) Spread a sheet of polyethylene filter over a work table, place a tray covered with a sheet of polyethylene filter over the bottom there and handle isotopes in it.
4) Check the contamination with a survey meter before and after experiment.
5) Make an appropriate shielding.
6) To protect the hands from contamination, wear a pair of rubber gloves when handling isotope.

6. Delivery of isotope from the storage

1) The leader must deliver the isotope from the storage.

7. Disposal of radioactive wastes

1) Solid radioactive wastes are divided into combustibles, conditionally combustibles, incombustibles and animal carcasses. Radioactive waste liquid is divided into inorganic and organic liquids.
2) Combustibles, conditionally combustibles and incombustibles are disposed in the appointed polyethylene bags.
3) Animal carcasses are disposed after they have been dried using a drier for animals.
4) Inorganic liquids are divided into appointed kinds of nuclides. Precipitates are filtered and the pH is adjusted to between 5 and 9.
5) Organic liquids are divided into appointed kinds of nuclides and adjusted to appointed levels of radioactivity. Precipitates are filtered and the pH is adjusted to between 5 and 9.
6) Disposal of radioactive wastes matters shall be made with an experiment leader.

8. Use of the measurement room and the installed equipments

1) To prevent contamination, handling of bare isotopes is inhibited in the measurement room.
2) Samples shall be enclosed into vials or tubes for measurement and sealed according to respective methods in each laboratory.
3) In the measurement room, equipments such as a liquid scintillation counter, an auto well gamma counter and a bio-imaging system have been installed. When intending to use them, make reservation with the equipment reservation system before use. Write down necessary items in the use-record book after use.
4) When intending to use equipment installed in the measurement room, make reservation with the equipment reservation system before use.

9. Measures in an emergency

1) When a disaster such as a fire or earthquake has occurred, stop the experiment at once.
2) Turn off the electric and gas supply.
3) Seal up the isotope in use and transfer it to a stock room or a safe place.
4) When a fire or an accident has occurred, notify it to the control room at once.
5) Remove the plastic cover of the thumb turn located on an emergency exit door, open the door and leave the controlled area.