

Research > Prevention of radiation damage, etc.

The use of radioactive rays and radioactive isotopes carries with it the risk of harmful radiation damage. People engaged in work involving radioactive rays, as well as other people, must be protected, and to do this, radioactive substances must be used in compliance with the laws, including laws regarding regulations of radioactive isotopes, the laws regarding regulations of nuclear source material, nuclear fuel material and reactors. At Kyushu University, we have our own regulations relating to the use of radioactivity, and are striving to prevent radiation damage.

Radioactive substances

Radioactive substances are defined as any substance with the potential to emit radioactive waves, and include tritium, cobalt 60, uranium, thorium, etc. (as well as any substances contaminated with these substances). These substances are broadly categorized into “ radioactive isotopes ” and “ nuclear source materials or nuclear fuel materials ” (internationally controlled materials).

- (1) Radioisotopes
Tritium, cobalt 60, cesium 137 and other isotopes that emit radioactive waves, or compounds of these, or compounds containing these
- (2) Nuclear source material
Natural uranium, depleted uranium, enriched uranium, thorium, plutonium.
- (3) Nuclear fuel material
Uranium ore, thorium core and other nuclear fuel material raw materials

Rules on Prevention of Radiation Hazards at Kyushu University

Kyushu University set necessary rules on the prevention of radiation hazards based on the laws regarding regulations on radioisotopes (Act No.167 in 1957) as well as Prevention of Ionizing Radiation Hazards (Ordinance of the Ministry of Labor, No.41 in 1972).

- [Rules on Prevention of Radiation Hazards at Kyushu University](#)

Regulations relating to the prevention of radioactive damage

In order to use radioactive isotopes, etc. (radioactive isotopes, radiation generators, certified apparatus with indications, and x-ray equipment (excluding electronic microscopes of acceleration voltage less than 1,000 kV)) for educational or research purposes, departments involved in the handling of such substances must abide by the Kyushu University regulations relating to the prevention of radioactive damage, and strictly observe regulations relating to

such prevention established by the individual departments.

Regulations relating to the prevention of radioactive damage regulate the following categories:

- (1) Establishment of a safety committee
- (2) Selection and deployment of a radiation protection supervisor
- (3) Inspection of facilities and equipment
- (4) Registration of persons involved in project
- (5) Registration in advance of use
- (6) Utilization procedures
- (7) Post-utilization processing
- (8) Storage
- (9) Disposal
- (10) Education and training for all persons involved in project
- (11) Health management
- (12) Measurement of exposure levels
- (13) Measures relating to incidents and danger, etc.
- (14) Measures relating to the infringement of rules/regulations etc.

Please check below for rules on prevention of radiation hazards set by each facility.

• Kyushu University Regulations “ Part 3: Health and Safety/Environmental Conservation ”

https://www1.g-reiki.net/kyushu-u/reiki_taikei/r_taikei_01_03.html

Initial handling of radioactive materials

Before handling, managing or being involved in work related to radioactive isotopes or radiation generators, etc. you need to register as a person qualified to handle radioactive material.

Likewise, to handle, manage and be involved in work related to x-ray equipment, you need to register as a person qualified to handle x-ray equipment.

【Outlines on new registration process】

- (1) Registration requests should be made to the head of your department (administrative office of your department).
- (2) The administrative office of your department delivers a “ registration application card ” , “ glass badge application ” , and a “ handling record book of radioactive isotopes ” .
- (3) Take the new training (implemented by the Central Institute of Radioisotope Science and Safety Management).
- (4) Attend a lecture on the rules for prevention of radiation hazards conducted by each facility.
- (5) Fill out the necessary information on the “ application card ” , “ glass badge application ” , and a “ handling record book of radioactive isotopes ” and submit the documents to the administrative office of your department.

(6) Subsequently, the administrative office of your department delivers a “ notification for a medical check schedule ” , “ individual health diagnostic cards for ionic radiation rays (personal copy), and a “ medical questionnaire for ionic radiation health diagnosis (medical questionnaire) ” .

(7) Take the medical check for ionic radiation.

(8) Upon receiving the results of the medical check (personal copy and copy of the medical questionnaire), attach them to the “ handling record book of radioactive isotopes ” .

(9) You will be notified when your registration is complete.

*Applying for a glass badge and procedures 6 to 8 are needed when working within the controlled area.

【Registration renewal】

The registration is valid until the end of the academic year.

If you continue to handle radioactive isotopes or x-rays, etc. please renew your registration.

When you renew your registration, you need to retake the educational training conducted by the Central Institute of Radioisotope Science and Safety Management. (Only radioactive isotope handlers)

【Use of off-campus facilities】

Registering as a person qualified to handle radioactive material is required to use off-campus facilities related to radioactive material, so please inquire at the administrative office of your department.

For details on procedures and such, please check with the administrative office of your department.

Here is the contact information of the administrative offices of each department.

• About prevention of radiation hazards (RI and X-rays)

<https://www.kyushu-u.ac.jp/ja/research/ethics/radiation>

Facilities approved to use radioactive isotopes

Approved facilities
Radioisotope Center
Hospitals (except Beppu Hospital)
Beppu Hospital

Medical Institute of Bioregulation

Center Institute of Radioisotope Science and Safety Management

Center for Accelerator and Beam Applied Science

X-ray handling facilities

Handling facilities

Hospitals (except Beppu Hospital)

Beppu Hospital

Medical Institute of Bioregulation

School of Medicine (except the Department of Health Sciences of the school of Medicine)

Department of Health Sciences of the school of Medicine

School of Dentistry

School of Pharmaceutical Sciences

School of Science, etc.

School of Engineering, etc.

School of Agriculture

Graduate School of Integrated Sciences for Global Society

Interdisciplinary Graduate School of Engineering Sciences, etc.

Research Institute for Applied Mechanics

Institute for Materials Chemistry and Engineering

International Institute for Carbon Neutral Energy Research (I2CNER)

Faculty of Arts and Science

Hydrogen Institute for Sustainability

Ito Clinic

School of Design

Platform of Inter-/Transdisciplinary Energy Research (Q-PIT)

Institute for Advanced Study

Central Institute of Radioisotope Science and Safety Management

Handling of nuclear fuel substances

When using nuclear fuel substances (internationally controlled materials), there is a need to obtain approval from the Nuclear Regulation Authority. Users of such substances are also required to take the requisite safety measures, manage the quantity of the substances, and meet reporting obligations.

Want to know more

- Regulations on radioactive isotopes, radiation generators and radiological contaminants (Nuclear Regulatory Commission) https://www.nsr.go.jp/activity/ri_kisei/
- Safety regulations on the use of nuclear fuel material (Nuclear Regulatory Commission) <https://www.nsr.go.jp/activity/regulation/nuclearfuel/shiyou/>
- Procedures regarding the use of internationally controlled materials (Nuclear Regulatory Commission) <https://www.nra.go.jp/activity/hoshousochi/tetsuduki/index.html>
- Central Institute of Radioisotope Science and Safety Management of Kyushu University <https://qrad.kyushu-u.ac.jp/>

Contact

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