1) Generalities

This document provides a summary of the regulations governing radiation and general safety considerations for users engaged in experiments at GANIL. A fuller description may be found in general documents (general instructions for radiation protection and safety) or contact GANIL's radiation safety office (SPR) or safety engineers.

2) Access to experimental areas

2.1) General rules

The access to experimental areas, as indicated by a radiation warning trefoil, is restricted to authorized personnel permanently wearing a personal dosimeter:

1. **Grey-blue trefoil: photographic dosimeter must be worm**
2. **Green trefoil : photographic and electronic dosimeters must be worm**

A card providing access to INB and experimental areas and an electronic dosimeter will be supplied to each user in his/her name by GANIL in exchange for his/her identity card or passport. You will have to provide a medical certificate of aptitude to work under ionising radiation and the last twelve months' results of your dosimetry. You must present a dosimeter film valid for the period of activity on the site. If you have had any special radiography, please inform GANIL's Medical Service.

On leaving GANIL, both the dosimeter and access card must be returned to the reception office. When entering any controlled experimental area, the radiation level must first be checked with the instrumentation available at the entrance to the area. Respect the orders posted at the entrance to the area.

On each occasion that a scattering chamber is opened, a radiological control must be carried out. The procedures to be followed will be defined in each case by the SPR.

2.2) Access management

The access to experimental areas is controlled by a system of access. To get permission for a target room to receive the beam, you must contact the SPR during working hours. After this permission has been obtained, it remains valid for the whole period of the experiment.. Access is only possible with your pass card. Only you may use this card, and you are responsible for ensuring this.

3) Calibration with radioactive sources

3.1) GANIL's sources

To borrow a radioactive source, contact SPR . Loan is loan is made by name. The loan is available for a limited period. As soon as you don't longer need any source, you must return it immediately. This obligation is binding.

3.2) Sources from outside GANIL

If you have to sign in and sign out any radioactive source brought to the GANIL site. It is obligatory to provide the SPR with information concerning any such source. Before any radioactive source is transported on a public highway, contact SPR.

3.3) Regulations

If a source is damaged, lost or stolen, the SPR should be contacted immediately.
A source may not be lent to another group and must remain in the area designated by the user. The source, when not in use, must be stored under lock and key in a manner appropriate to its characteristics. A source cannot leave the site without the authorization of the SPR. No source may be placed under vacuum without the authorization of the SPR.
Sources must not be altered, attached with sellotaped or other adhesive tape, nor may they be taken apart.
It is imperative to use the board **SPR245** placed in the acquisition area, and also to use the board **SPR250** placed in the experience area , to indicate where the source is placed.

4) Management of radioactive materials

Any equipment which has been in a contaminated zone is considered as potentially active (the zones are defined for each room at the entrance). You must scrupulously comply with the requirements applicable to the management of this equipment (i.e. with the information form duly filled in and signed).
If you have to take potentially activated materials into or out of the GANIL site, the SPR must make a radiological check.
The authorization for removal from the site will be given by the person responsible for the transport of radioactive material belonging to GANIL. In all other cases, please contact the SPR to define the methods for removal of the equipment.
Outside the INB (nuclear plant) a detector makes a radiological control (pedestrian and vehicle gates). If the alarm sounds, read the instructions displayed near the warming light.

5) Radiological events

If the alarm on your personal electronic dosimeter (dose and dose rate) sounds, go out of the area and contact SPR.
If a radiation monitor registers levels above level 1 (yellow warning light and alarm), contact the SPR.
If a radiation monitor registers levels above level 2 (orange and/or red warning light and alarm), the area should be evacuated immediately and the SPR contacted.
If you find yourself in an experimental area capable of receiving the beam (as indicated by an alarm and/or a flashing red warning light and/or the switching off of the lighting), the area should be evacuated immediately, using the anti-panic handles on the doors to open them, and the SPR contacted.

6) Nuclear materials

Introduction of nuclear materials (e.g. U, Pu, Th…) to GANIL requires safety engineer authorization and SPR control.

7) Fire, bodily accident – Conduct required and means of alert

Fire	**Bodily accident**
→ evacuate the area → trigger the emergency fire alarmț Switch off the electrical apparatus, if it is an electric fire	Electrified person : switch off the power before aiding the injured person Thermal burns : do not undress the injured person, douse under an abundant shower Chemical burns : remove soiled clothing and a douse under an abundant shower
Alert → Phone the Fire brigade (dial **18)** to announce slowly "here is GANIL (fire or accident) place (building, room) accident..) and **NEVER put down the receiver before all details have been confirmed .** → GANIL brigade phone **15**, guard station phone **4499**	
→ If possible, try to extinguish the fire using an extinguisher. **Important : never act alone and never take any undue risk.** **In a state of emergency :** go to the assembly area, close doors, windows and the security doors as you pass	→ While waiting for help : **- Do not move the injured person unless there is a risk of further injury (fire, toxic materials or gases, etc.)** **- Do not give anything to drink to the injured person.** Do not move an injured person to hospital in your own car.

8) Use of combustible gas and liquid, toxic products and cryogenics fluid

The use in experimental areas of any toxic products, flammable liquids or gases, and cryogenics fluid - notably hydrogen or hydrocarbons - is subject to specific conditions as defined by the security officer, whom you must contact beforehand.

9) Detection systems

Gas detection systems (oxygenate, flammable gas) and fire detectors are placed in high-risk areas.
Before any intervention in an experimental room, take note of the information (indexed risks) and posted instruction (what to do…).

10) Electromagnetic radiation

Anyone with passive or active pacemakers or other electronic implants MUST contact the GANIL medical service.

11) Isolated worker

To protect the isolated worker, intervention is allowed only for at least two people during irregular work time.
Otherwise, a special phone named "protection of the isolated worker" must be borrowed at the PCP.

Fire brigade	**Phone. : 18**	**SPR head of department**	**Phone. : 48.59**
GANIL intervention brigade	**Phone. : 15**	**- SPR technician on call**	**Phone. : 47.13**
Guard station	**Phone. : 44.99**	**- SPR during irregular work time, contact PCP**	
PCP control room	**Phone. : 47.47**	**Security officer :**	**Phone.: 46.11 ou 47.74**
GANIL medical service	**Phone. : 45.45**	**Security animator :**	**Phone. : 47.24**
Chef d'installation	**Phone. : 46.26**		