



Safety Rules in the NMR lab

This note must be read and understood by **all NMR users**

Magnetic Field Hazards:

Large attractive forces may be exerted on equipment/magnetic subjects in proximity to the magnet. The force may become large enough to move the equipment uncontrollably towards the NMR magnet.

Small pieces of metallic subjects may become projectiles (keys, wrench, screwdrivers...). Large equipment (gas cylinders, trolley...) could cause bodies or limbs to become trapped between the equipment and the magnet.

When closer to the magnet, the larger the force.

The larger the subject mass, the larger the force.

Rules:

- You should not bring any metallic object close to the magnet. The plastic chain or marks close to the magnet indicates the sensitive area around the magnet. **PLEASE DO NOT BRING ANY METALLIC SUBJECT BEHIND THE CHAINS OR FLOOR MARKS!** The table where the computer can be located close to the 5 gauss line
- In all cases, near the magnet, **you must use non-magnetic devices.**
- No food and drink are allowed in the NMR lab.
- **Please do not bring any chemicals other than your own NMR samples to the NMR room.**
- It is your responsibility to report any accident or incident to the NMR technical personnel immediately.

Medical Electronic implants

The operation of medical implants (cardiac pacemaker) may be affected by static or changing field (above 5 gauss).

Other medical implants such as aneurysm clips, surgical clips or prosthesis may contain ferromagnetic materials and therefore would be subjected to strong attractive forces near the magnet. This could result in injury or death. Additionally, in the vicinity of rapidly changing fields (pulsed gradient fields), eddy currents may be induced in the implant resulting in heat generation. If you carry these implants, you should not be in the vicinity of the NMR spectrometers.

For pregnant women, it is recommended not to be exposed to magnetic field levels higher than 5 gauss

Other Hazards

Equipment such as watches, cellular phones and cameras may be magnetized and irreparably damaged if exposed to fields above 10 gauss. Information encoded magnetically on banking cards, diskettes, tapes may be corrupted. These subjects should be kept away from 5 gauss line

Users who do not follow the safety rules described above will lose the privilege to use the NMR facility.

I have read and understood the safety features.

Name _____

Email: _____

Signature: _____

Date _____