



## **Cryostat Safety Guidelines**

A cryostat is a device used to maintain low cryogenic temperatures of samples or devices mounted within the cryostat. Low temperatures may be maintained within the apparatus by using various refrigeration methods, which may include the use of liquid hydrogen.

### Prior to Cryostat Use

1. A Standard Operating Procedure (SOP) specific to the cryostat being utilized should be created in conjunction with the owner's manual to ensure that all aspects of care and use are captured (ex: disinfection, maintenance, safety protocols, function, special features, etc.). All those using the equipment should be required to read and acknowledge understand of the SOP.
2. Review and acknowledge laboratory specific biosafety plan, and, if applicable, the laboratory chemical hygiene plan.
3. Training should be required before use by an individual documented as a trainer, and training should be documented.
4. A form documenting the use of the equipment should be created notating items such as: name of user, date of use, potentially infectious agents in sample, and any other items deemed necessary.

### Potential Hazards

1. Sharps
2. Cold temperatures
3. Chemical exposures

### Using Cryostat

1. Ensure laboratory required Personal Protective Equipment (PPE) is in use, to include: laboratory coat, close toed shoes, long pants, gloves, eyewear (if applicable), respiratory protection (if applicable).
2. Know your sample (biohazards and/or chemical hazards). Depending on the chemicals used, you may need to contact the RLSS Chemical Safety Department for specific handling requirements.
3. Make sure to lock the handwheel before using.
4. During motorized sectioning, always center the handwheel grip.
5. Ensure knife guard is in place prior working on knife and/or specimen, exchanging samples, and during breaks.
6. Install specimen in equipment prior to installing knife/blade, and when done, remove knife/blade prior to removing sample.
7. Know where the emergency stop function is located, and how to use it in an emergency.
8. When handling the knife/blade, it is recommended to use forceps or cut resistant gloves.
9. Keep a sharps container near the equipment for easy disposal of knife/blade. Ensure the equipment is turned off prior to removing the knife/blade.
10. When needing to handle frozen parts of the equipment, ensure to wear protective gloves.
11. Try not to leave specimens unattended in the cryochamber over an extended period of time.
12. Unused sections of the specimen should be stored, or disposed of, properly.
13. When disinfecting, make sure the equipment is turned off. Consult the owner's manual for appropriate disinfectants and cleaning procedures.