
Standard Safety Protocol

TRACES X-Ray Standard Safety Protocols

All X-ray instrument users are required to complete the UofT X-Ray Safety Program and hold an updated X-Ray Safety Certification Certificate. Training is available online through EHS741 and EHS745.

1. The equipment should be used under the guidance and supervision of the TRACES Staff or X-ray certified designee. All X-Ray users MUST register with the TRACES Lab Manager.
2. The equipment should be operated in such a way, that the authorized user does not expose any part of the body to the direct beam, and no other person is accidentally exposed.
3. Personal dosimeter badges must be worn when operating **portable** X-ray equipment. Wrist or finger dosimeter badges shall be worn when close approach to the direct beam is unavoidable. If you are using the closed XRF/XRD systems, the dosimeter is not required.
4. Shutters must be closed when loading sample.
5. The X-Ray instruments are located in TRACES and access is restricted. Furthermore, the equipment is located in unrestricted areas, and keys for the control switch are the license of the TRACES Lab Manager (Lab RSO).
6. Warning signs are affixed on the outside of the room, on the door that provides access to the equipment. Warning labels are affixed to the equipment. Please follow all instructions.
7. Warning light indicates when the X-ray tube is energized. Warning light must be ignited by use of ANY X-Ray instrumentation is in progress.
8. Necessary shielding is provided by the equipment (as per Reg 861) the X-ray tube is energized. The radiation levels are checked by the RSO to meet the University's permissible regulatory limit.
9. All the X-Ray equipment contains a fail-safe shutter, become familiarized with it.
10. No interlocks or safety device shall be deliberately defeated. Doing so can cause serious injury or death. ANYONE WHO DOES SO WILL RECEIVE A PERMANENT SUSPENSION FROM THE TRACES CENTRE, WITH AN INCIDENT REPORT FILED WITH THE POLICE AND CHAIR.
11. You are not authorized in making repairs or adjustment to any TRACES instrumentation.
12. Any defect in X-ray equipment shall be reported immediately to the TRACES Lab Manager or Radiation Protection Services.
13. Pre-operational Safety Checks (interlocks, safety devices, shutters, etc.) are performed periodically to insure their proper operation. Records of inspections, surveys and repairs are maintained by the TRACES Lab Manger.
14. For more information, refer to "Safety Requirements and Guidance for Analytical X-ray Equipment", Safety Code 32 from Health Canada:
<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/safety-requirements-guidance-analytical-equipment-safety-code-32.html> .
15. If you are unsure of any of the preceding protocols contact Tony Adamo , tadamo@utsc.utoronto.ca, 416-287-7239. Also available Radiation Protection Service Office (416.978.6846).
16. Failure to observe one or more of the preceding protocols will lead to suspension of privileges and/or permanent restriction from using the instruments.

Contact the TRACES Manager for full details.