



Harvard University  
Radiation Safety Committee

## Laser Instrument Registration

Laboratory analytical instrumentation is increasingly using high power lasers as a component of the system, which is a potential safety concern. While the laser may be contained within the instrument, it is necessary to review the manufacturer's classification of the laser to determine the safety requirements. The manufacturer's laser safety classification may be found in the instrument's Owner's Manual. Some laser instruments are rated as Class 1 lasers, but may contain embedded lasers (Class 3B or 4) within the protective and interlocked housing. In some cases, the manufacturer will rate the instrument as a Class 3 B or Class 4 laser product. Class 3B and 4 lasers are powerful enough to present safety concerns. To manage this risk, instruments containing any Class 3b or 4 lasers must be registered with the EH&S Radiation Safety Services (RSS).

To assist in the safe management of high power lasers and to comply with state regulations, follow the guidance below for laser instruments.

### Class 1 Laser instruments with an embedded Class 3B or Class 4 laser.

Laser instruments that are rated as Class 1 laser instruments are safe when used as intended by the manufacturer. In the original configuration, the engineering features limit user exposure to the laser beam. However, when the instrument is opened (e.g. for service, maintenance or alignment), the embedded laser beam is accessible and requires a more comprehensive safety program.

1. Register the laser with RSS by completing a [Laser/Non-Ionizing Radiation Permit Application](#) and email the form to [radiation\\_safety@harvard.edu](mailto:radiation_safety@harvard.edu). Please record the instrument manufacturer's laser classification (found on a label on the instruments or in the Owner's manual) in Section 11 and provide a copy of the manufacturer's classification.
2. The users need to take the lasers safety training: RPO104-Commericla Laser Microscope Safety Training.
3. Provide any user with safety training as specified in the Owner's manual. At a minimum, this shall include a notice of the laser's presence and instructions to not open instrument or service the laser.
4. Post the instrument with a warning label about the embedded laser hazards (available from RSS).
5. Instrument service may only be performed by a person specifically trained in the laser safety practices and approved by the lab and RSS or manufacturer. Laser safety controls appropriate for the operation and laser class must be applied.

### Class 3B or 4 Laser instruments

The laser instrument manufacturer has deemed that these instruments require more robust safety precautions for the users' safety. These instruments must be registered and may only be operated by a person who has completed RSS's Laser Safety Training and specific instrument training by the lab.

1. Register the laser with RSS by completing a [Laser/Non-Ionizing Radiation Permit Application](#) and email the form to [radiation\\_safety@harvard.edu](mailto:radiation_safety@harvard.edu) or fax to 617-496-5509.
2. Please record the instrument manufacturer's laser classification (found on a label on the instruments or in the user's manual) in Section 11.
3. Have the user complete RSS Laser Safety Training at <https://trainingportal.harvard.edu/>.
4. Train the user on the specific operation of the instrument.
5. Post the lab and instrument with appropriate laser safety labels as required by RSS.

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#### Laboratory Safety

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