

Laboratory Laser Safety Checklist

Building:	Room Number:
Area Supervisor:	Phone Number:
Area Use:	Date:
Laser Classification:	

General Laser Safety

These general precautions are applicable to all class 2, class 3, and class 4 laser systems. Class 1, 2, or 3a laser systems that enclose higher class lasers must comply with the requirements of the higher class laser during alignment, service procedures, and other operations that permit beam access. Fabricated or modified laser systems shall be evaluated by the Laser Safety Officer and, if necessary, reclassified. Areas in compliance with current standards should have all applicable items answered as “Y” (Yes).

ADMINISTRATIVE AND PROCEDURAL CONTROLS	Y	N	N/A
1. Laser system classified appropriately			
2. Laser system included in UofM inventory			
3. Class designation and warning label prominently affixed to laser housing			
4. Beam alignment procedures maintain exposures below MPE			
5. Beam directed away from doors and windows			
6. Beam path not level with normal sitting or standing eye position			
ENGINEERING CONTROLS AND PROTECTIVE EQUIPMENT	Y	N	N/A
7. Protective housing or enclosure present and in good condition			
8. If laser operated without protective housing, hazard analysis conducted and appropriate controls implemented			
9. Protective housing enclosing class 3b or 4 lasers equipped with interlocks			
10. Service access panels for embedded 3b or 4 lasers equipped with interlock, key access, or similar barrier			
11. Viewing windows or portals attenuate radiation to below MPE; can withstand direct and diffusely scattered beams			
12. Collecting optics maintain exposures below MPE			
13. Temporary laser controlled area established when MPE exceeded			
NON-BEAM HAZARDS	Y	N	N/A
14. High voltage equipment properly grounded			
15. High voltage equipment located away from wet surfaces or water sources			
16. High voltage warning label in place			
17. Compressed gases properly secured			
18. Flammable and oxidizing materials stored away from laser area			
19. Hazardous chemicals not in use; stored away from laser area			

Class 3b Lasers

Additional precautions for class 3b laser systems.

ADMINISTRATIVE AND PROCEDURAL CONTROLS	Y	N	N/A
1. Laser Safety Officer (LSO) designated			
2. LSO empowered with decision making and enforcement authority			
3. Nominal Hazard Zone established and demarcated for unenclosed systems			
4. Warning signs and labels at entrance(s) to nominal hazard zone			
5. Only authorized laser users permitted to operate lasers			
6. Education and training provided to all authorized laser users and documented			
7. Laser 3b (or 4) controlled area established			
8. Medical surveillance procedures implemented for both incidental and laser personnel			
ENGINEERING CONTROLS AND PROTECTIVE EQUIPMENT	Y	N	N/A
9. Service access equipped with interlock, key access, or similar barrier			
10. Skin protection and protective eyewear used for open-beam UV lasers			
11. Skin protection used when UV exposures exceed MPE			
12. Barriers, screens or curtains are flame resistant; do not release toxic fumes following laser exposure			

Class 4 Lasers

In addition to the requirements for lower class systems, class 4 laser systems must also meet the following:

ADMINISTRATIVE AND PROCEDURAL CONTROLS	Y	N	N/A
1. Laser area free from polished or reflective surfaces			
2. Activation warning system used during activation or startup			
3. Written SOPs for laser use and maintenance operations (including beam alignment)			
4. Spectators permitted only with supervisory approval, appropriate training, and protective measures			
ENGINEERING CONTROLS AND PROTECTIVE EQUIPMENT	Y	N	N/A
1. Master switch / key control available			
2. Remote interlock connected to emergency disconnect / interlock			
3. "Panic button" available for emergency deactivation			
4. Laser protective eyewear available and in good condition			
5. Protective eyewear of appropriate optical density for laser system			
6. Protective clothing made of flame resistant materials			
7. Permanently attached beam stop or attenuator			
8. Control measures (e.g., isolation, local ventilation, PPE) implemented for vaporization of target materials and other laser generated air contaminants			