



Laser Pointers

Laser pointers are handheld, battery-operated devices commonly used for presentations, instruction, and demonstrations. The U.S. Food and Drug Administration (FDA) regulates laser pointers under its Radiation-Emitting Products program (21 CFR Part 1040). Under the FDA regulations laser products marketed as pointers or demonstration lasers are limited to Class 3R (formerly Class IIIa) or lower, with a maximum output power of 5 milliwatts (mW). Class 2 and Class 3R laser pointers are generally acceptable for presentation use when used properly.

The University of New Mexico does not permit laser pointers classified as Class 3B or Class 4, or any laser pointer labeled as exceeding 5 mW. These higher-powered lasers present a significantly increased risk of eye injury and may require additional safety controls under ANSI Z136.1 laser safety standards.

Before Purchasing a Laser Pointer

Only purchase laser pointers that have a manufacturer-applied safety label indicating:

- Laser class (Class 2 or Class 3R)
- Maximum output power (≤ 5 mW)
- Applicable warning statement ("CAUTION" or "DANGER")
- Manufacturer information, as required by FDA laser product regulations.

Do not purchase or use a laser pointer that lacks a laser classification label.

Warning Signs of Potentially Overpowered Laser Pointers

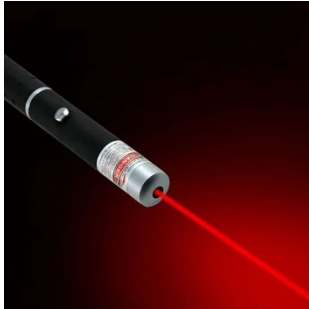
Studies and regulatory inspections have found that some imported laser pointers may exceed their labeled power ratings. Exercise caution if a laser pointer:

- Uses AA, AAA, rechargeable lithium batteries, or requires charging.
- Has an adjustable-focus feature.
- Includes removable diffraction caps or beam-spreading attachments.
- Is marketed using terms such as high power, military grade, ultra bright, super powerful, burning laser, or similar claims.

- Is advertised as capable of burning materials, melting plastic, lighting matches, or popping balloons.
- Shows demonstration videos involving burning, smoking, melting, or other destructive effects.

These characteristics often indicate output powers above the 5 mW limit for laser pointers and may place the device in Class 3B or Class 4.

Safe Use of Laser Pointers



- To prevent eye injury and visual interference hazards:
- Never look directly into a laser beam.
- Never intentionally aim a laser at another person's eyes.
- Never point a laser at vehicles, aircraft, or equipment operators. Directing a laser beam at an aircraft is a federal offense and can create significant aviation safety hazards.
- Avoid directing the beam at reflective surfaces such as mirrors, polished metal, or glass.
- Never view a laser beam through binoculars, microscopes, telescopes, magnifiers, or other optical devices.
- Keep the laser pointed away from the audience during presentations.
- Turn the laser off when not actively using it.
- Do not operate a laser pointer from behind an audience where the beam could inadvertently enter occupied areas.
- Keep laser pointers out of the hands of children. Laser pointers are not toys.

Potential Hazards

Improper use of laser pointers can result in:

- Temporary flash blindness
- Afterimages
- Glare and visual distraction
- Startle reactions
- Retinal injury and permanent eye damage in cases of intentional exposure or use of higher-powered lasers

Regulatory References

FDA Laser Product Performance Standard, 21 CFR 1040.10 and 1040.11. Laser products promoted for pointing or demonstration purposes are limited to Class IIIa/Class 3R.

ANSI Z136.1, Safe Use of Lasers, the nationally recognized laser safety standard referenced by OSHA for laser safety programs.

Contact Environmental Health & Safety (EHS) for guidance before purchasing or using laser devices that may exceed Class 3R or 5 mW output.