



## Laser Pens and Pointers

The following guidance relates to the use of laser pens and pointers.

Lasers and laser products (eg laboratory sequencers, laser printers, CD players, pointers etc) are all classified according to a range of safety criteria, resulting in a “class number” of between 1 and 4 (there are also various sub-categories); Class 1 being the least and Class 4 the most hazardous. This class number reflects the hazards involved and describes the associated measures which must be employed when using such equipment.

Laser pens and pointers are usually classified as “Class 1”, or “Class 2”, which allows them to be used for their design purpose without any particular extra constraints. This latter class only applies to laser products with emissions in the visible wavelength range (approx. 420 nm – 700 nm.) Class 1 products are normally safe under reasonably foreseeable conditions of use, whereas Class 2 lasers have a greater potential to damage the eye, but accidental exposure is normally safe because of the normal human “blink response” (ie the mechanism by which the eyelids close by reflex action as an automatic response to a bright light). This will protect the eye from any damage, because a Class 2 laser is not sufficiently powerful to damage the eye before the eyelid closes. However, never stare into the beam from a Class 2 laser, ie attempt to prevent the blink response, as damage to the eye could then occur.

Unfortunately, many of the laser pens and pointers currently available are “cheap” imports from countries where it is commonplace to attach a label to goods which may not be appropriate to their true properties. In some of the reported cases it appears that physical damage has been caused to individual’s eyes and this would seem to indicate that more powerful lasers have been used, which, if measured against our British Standard for classifying lasers would have resulted in classification as Class 3 or even 4.

### **The blink response will NOT protect the eye against damage caused by accidental exposure to Class 3 and Class 4 lasers.**

It is not evident from the reports what Class the pens were, or indeed what the exact circumstances were. It is clear, however, that one individual was foolish enough to repeatedly direct the beam from a laser pen into the eyes of an off-duty policeman. The perpetrator was arrested, and later successfully prosecuted and fined for common assault! From subsequent statements made by the police and the Home Secretary, it is definite that perpetrators of such incidents will be prosecuted in the courts whenever possible.

We must therefore ensure that our control of legitimately owned lasers and laser products is in order - particularly the use and control of laser pointers.

All members of the University are reminded that Safety Guide 21 entitled “Lasers” (copies available on request from the Health and Safety Services office extension 8888) gives detailed guidance and University policy on the possession and use of all lasers and laser products. An important aspect is the registration centrally with the Health and Safety Services office of all equipment containing lasers (**with the exception of laser printers and compact disc players as they are deemed “safe by design”**). This exemption **does** extend to laser pens and pointers, but such items must be

declared in the first instance to your Departmental Laser Supervisor (if your department has one) or your Area Safety Co-ordinator (all areas have one). Names and telephone numbers are in the University of Reading Safety Who's Who (see Area Safety Noticeboards). If required by your ASC, the laser pointer should also be registered on the appropriate form to the Safety Office (Form SO12c, available from the Safety Office extension 8888 on request). Normally, laser pointers as supplied with multimedia equipment in classrooms/ lecture theatres need not be registered, as these should be classified as Class 1 and 2.

Laser pens and pointers bearing a higher classification must be individually assessed and registered with Health and Safety Services, and their use re-considered accordingly. Guidance must be sought in this latter aspect from the University Laser Safety Officer (extension 8888).

**All “recreational” use of laser pens and pointers (ie for any purpose other than pointing to overhead screens etc) is strictly forbidden.**

Please direct any queries you may have in the first instance to your Departmental Laser Supervisor (if there is one) or to your Area Safety Co-ordinator. Further advice and information is obtainable from the University Laser Safety Officer in the Health & Safety Services office (extension 8888).

Malcolm Iosson  
University Laser Safety Officer

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